UNITED STATES
MILITARY POSTURE
FOR
FY 1987

Prepared by

THE ORGANIZATION OF THE JOINT CHIEFS OF STAFF

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PREFACE

The primary purpose of this statement on the military posture of the United States is to supplement testimony by the Chairman of the Joint Chiefs of Staff and members of the Organization of the Joint Chiefs of Staff at congressional hearings in support of the Fiscal Year 1987 Defense Budget.

Chapter I is an overview that describes the main challenges to US national security, outlines objectives and elements of US military strategy, and highlights continuing efforts to field the best possible armed forces for the protection of US national interests.

Chapter II compares US defense requirements and resource commitments with those of the Soviet Union.

Chapter III assesses the current and projected capability of the US Armed Forces to meet the Soviet nuclear threat.

Chapter IV assesses the current and projected capability of US Armed Forces, in concert with friends and allies, to meet the Soviet conventional military threat. This chapter examines types of forces and their regional applications.

Chapter V addresses other selected topics of interest.

Figures stated in this report are projected for 1 January 1986 based on data available 30 December 1985.

Boundary representations are not necessarily authoritative. The United States does not recognize the incorporation of Estonia, Latvia, and Lithuania into the Soviet Union.

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CHAPTER I. SECURITY CHALLENGES AND THE MILITARY POSTURE

INTRODUCTION

The US Armed Forces protect and preserve the United States as a free nation. US forces help assure the physical security of the United States as a democracy and protect US interests abroad. The basic military strategy of the United States is the deterrence of war. A credible deterrent across the full spectrum of conflict requires a strong military posture. The increased military investment of the past few years has resulted in capability growth due to improvements in readiness, sustainability, modernization, and force structure programs.

MILITARY POSTURE AND GLOBAL REALITIES

The United States has global interests and commitments. The security interests of the United States, its allies, and friends continue to be challenged by the sustained growth and complexity of Soviet military power, Eastern bloc and surrogate exploitation of regional conflicts, and instabilities in many areas of the world.

The Soviets continue to modernize their strategic nuclear, theater nuclear, conventional forces, and their capabilities for projecting military power. Together with clients and surrogates, they are attempting to weaken the ties between the United States and its allies and extend their influence in the Third World. Soviet military capabilities further impede the peaceful resolution of Third World problems, and contribute to regional instability in ways that promote wider conflict.

US military strategy seeks to deter attacks against the United States and its allies, limit Soviet capabilities for coercion, and provide the flexibility to respond appropriately to aggression. Therefore, US forces must be capable of meeting regional challenges as well as threats of global dimension. Readiness, sustainability, and sound force dispositions are imperatives of the US military posture.

Global Considerations

US interests are best pursued within a stable, peaceful international community. Armed conflicts, international terrorism, and regional instability adversely affect the United States and its allies with potential global implications. These challenges have led to sophisticated US military forces and the need for collective approaches to security.

The Soviet Union, using military power as its principal tool, continues its efforts to influence international events. Figure I-1 shows the Soviet network of activities that have facilitated the introduction of Soviet equipment and personnel — or surrogate forces — and, ultimately, Soviet influence into various regions of the world.

The continuing Soviet buildup of nuclear and conventional forces has global significance. Soviet military capabilities have put great pressure on US and allied defensive strategies and threatened international stability. The United States and Soviet Union could inflict unprecedented damage on each other by the use of strategic nuclear forces. Nevertheless, the Soviets have continued to develop strategic offensive and defensive capabilities in an effort to reduce the credibility of the US deterrent, to increase the options available to the Soviet leaders, and to diminish the options open to the United States and its allies. The Soviet's heavy dependence on military capabilities, along with their expansionist policies, continues to threaten the North Atlantic Treaty Organization (NATO) and serves to maintain pressure on the Eastern bloc to ensure Warsaw Pact cohesion. In addition, the Soviet Union has broadened the scope of its military activity outside Europe, as shown by its aggression in Afghanistan; extensive maritime operations, especially from facilities at Cam Ranh, Vietnam; and the general buildup of air and naval forces in the Pacific. These activities, along with increased Soviet support and employment of surrogates throughout the underdeveloped world, provide challenges to the West.

The following sections provide an overview of regional considerations that impact on the US military posture. Although the regions differ in many respects, their interrelationship requires that US security efforts in each area be evaluated to determine the potential impact on other regions.

Regional Considerations

Regional instability in underdeveloped areas of the world increases the difficulty of dealing constructively with development problems. Turmoil in these regions also threatens the flow of resources among nations and provides the Soviet Union opportunities to expand its influence at the expense of the Free World. Instability is most prevalent in the Central American-Caribbean region, southern Africa, Southeast Asia, and the area stretching from Libya to Afghanistan. Figure I-2 identifies areas where sustained military hostilities existed in 1985.

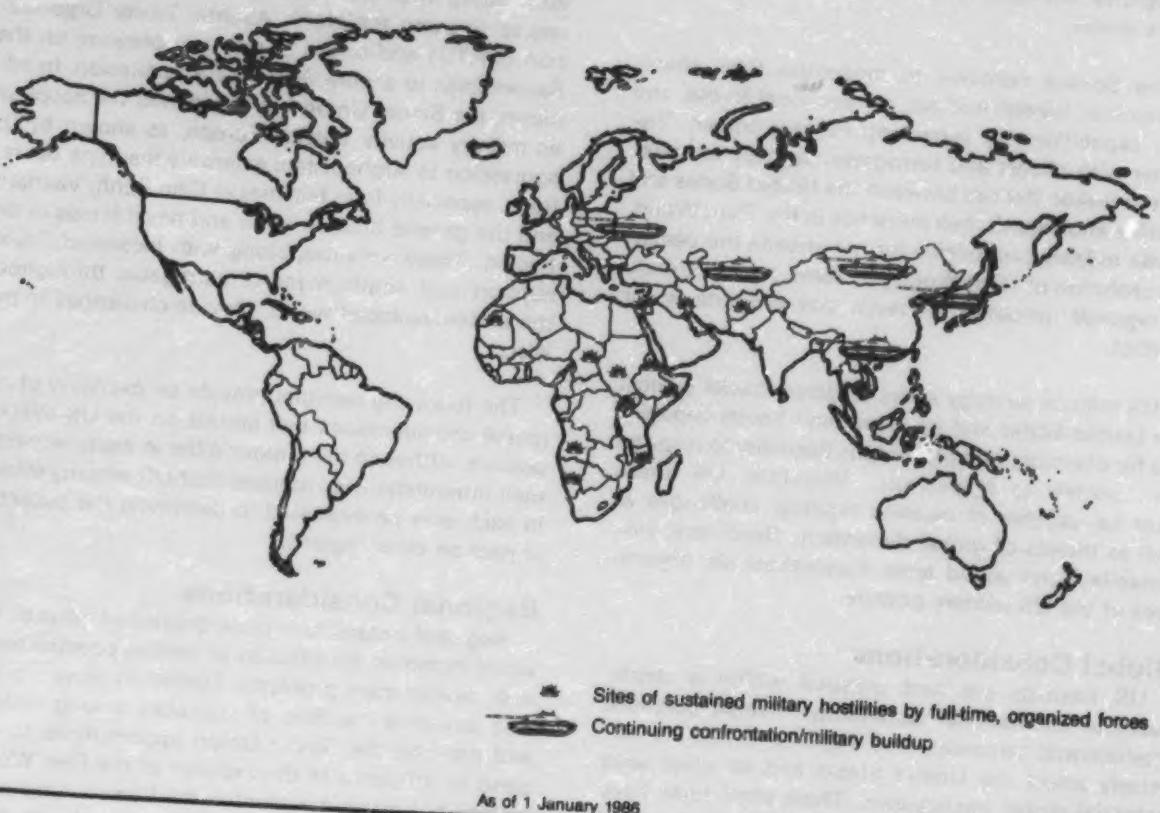
Nations within these regions are confronted by social, economic, and political problems that defy easy solution and often lead to insurgency and intraregional strife. Each of these regions has resources essential to the well-being of numerous nations, and many regions are adjacent to vital lines of communication (LOCs). Terrorism, externally supported aggression, and possible nuclear proliferation are regional concerns that represent potential threats to US security.

Intraregional conflict poses the risk of involving both neighboring nations and major powers outside the area. The United States must stand ready, with other nations, to deter regional conflicts or limit them should deterrence fail.

Western Europe, NATO, and the Warsaw Pact

The security of Western Europe and the security of the United States are interdependent. The United States is firmly committed to NATO (Figure I-3), and maintains strong forward-deployed forces in Europe and the adjacent seas as evidence of its determination to deter attacks on the Alliance or restore allied territorial integrity in the event of aggression. The security

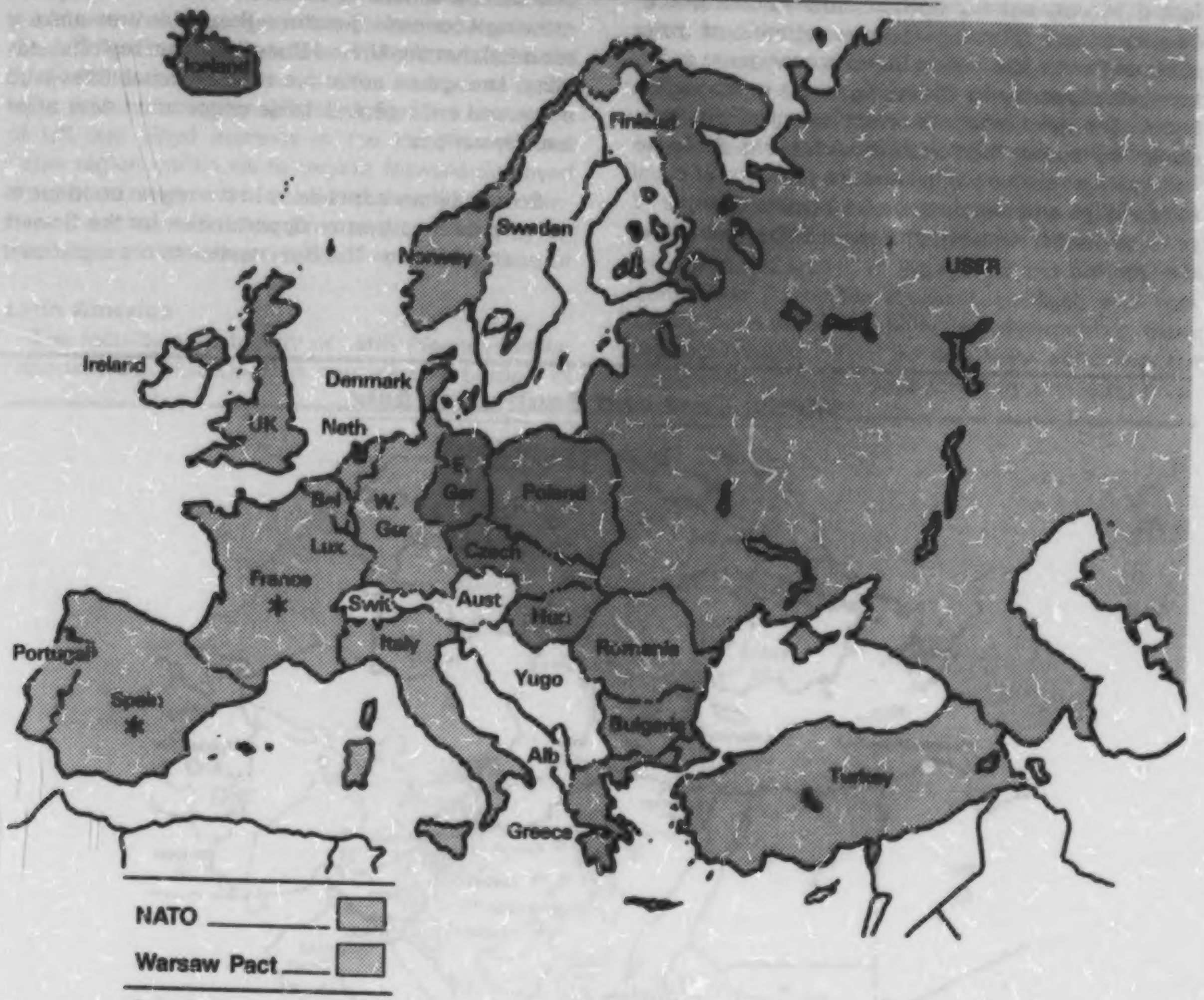
Military Hostilities and Confrontations


Sites of sustained military hostilities by full-time, organized forces
Continuing confrontation/military buildup

As of 1 January 1986

FIGURE I–2

Western Europe, NATO and the Warsaw Pact


Iceland
Finland
Sweden
Norway
USSR
Ireland
Denmark
UK
Neth
E. Ger
Poland
Bel
W. Ger
Lux
Czech
France *
Switz
Aust
Hun
Romania
Portugal
Italy
Yugo
Spain *
Bulgaria
Alb
Turkey
Greece
NATO ▨
Warsaw Pact ▨

* Does not participate in integrated military structure

As of 1 January 1986

FIGURE I–3

of NATO depends on the ability of the United States and its allies to continue to deter. Should deterrence fail, they must be capable of defeating Soviet/Warsaw Pact aggression. Accordingly, a full range of conventional and nuclear forces remains essential to deterrence and defense in Western Europe. To ensure a credible conventional defense capability, the Alliance must be able to reinforce forward-deployed forces rapidly; demonstrate that its forces can be sustained; and exploit NATO's advantages in resources, technology, and cohesion. Chapter IV discusses the military balance in Europe.

Middle East and Southwest Asia

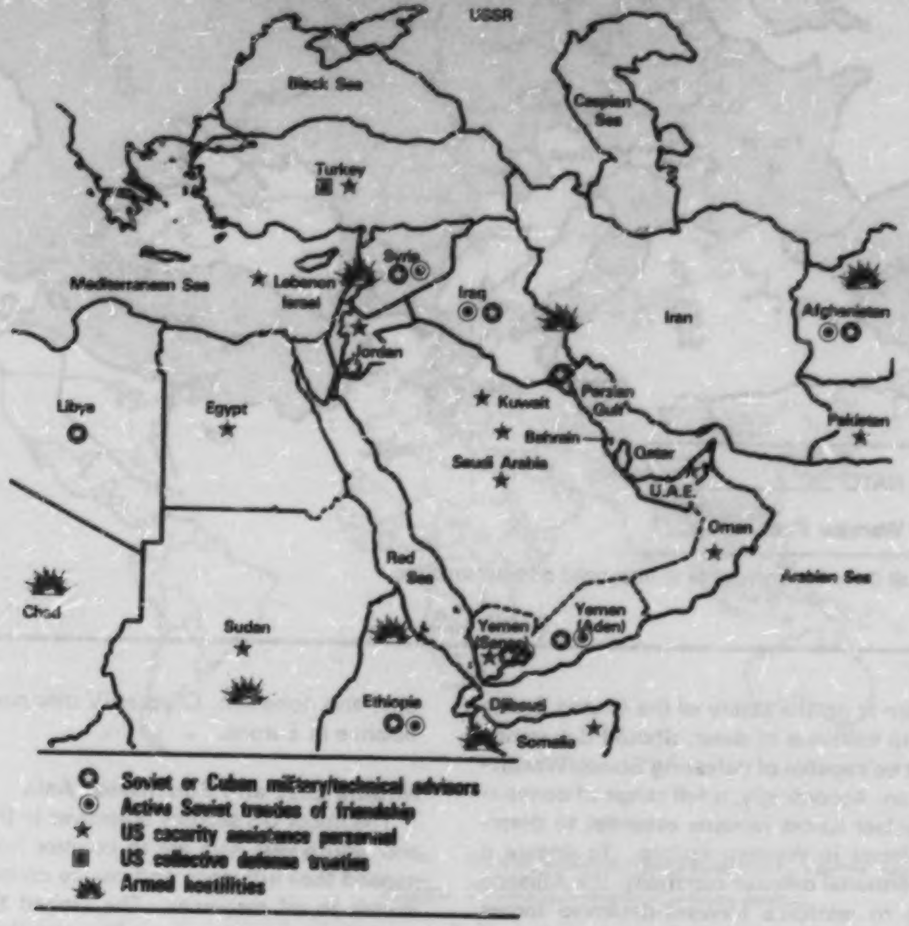
The major US security objectives in the Middle East and Southwest Asia are to counter Soviet moves to expand their influence and ensure continued Western access to oil resources. The United States remains committed to regional stability and the reduction of tensions that carry risks of wider involvement by the major powers. To accomplish these objectives, the United States is involved in diplomatic initiatives, selected security assistance, and multinational peacekeeping efforts (Figure I-4). In recognition of major external threats, the United States is continuing to improve its capability for deploying forces to the region should the need arise. Frequent exercises are conducted to improve this capability. A forward-deployed headquarters element afloat and the presence of naval forces in the area demonstrate US resolve. Chapter IV provides further discussion of the military situation in the region.

Pacific and East Asia

As in Europe, the security of the Pacific contributes directly to the defense of North America. Strong and growing economic ties throughout this area make it essential that the United States promote regional stability, strengthen collective defense capabilities with allies, and encourage defense cooperation with other friendly nations.

Soviet military capabilities in the region continue to grow, providing greater opportunities for the Soviets to exert influence. The Soviets maintain a significant

Middle East and Southwest Asia


USSR
Black Sea
Caspian Sea
Turkey
Syria
Mediterranean Sea
Lebanon
Israel
Iraq
Iran
Afghanistan
Jordan
Persian Gulf
Kuwait
Bahrain
Qatar
Libya
Egypt
Saudi Arabia
U.A.E.
Pakistan
Oman
Red Sea
Arabian Sea
Chad
Sudan
Yemen (Sanaa)
Yemen (Aden)
Ethiopia
Djibouti
Somalia
Soviet or Cuban military/technical advisors
Active Soviet treaties of friendship
US security assistance personnel
US collective defense treaties
Armed hostilities

As of 1 January 1986

FIGURE I–4

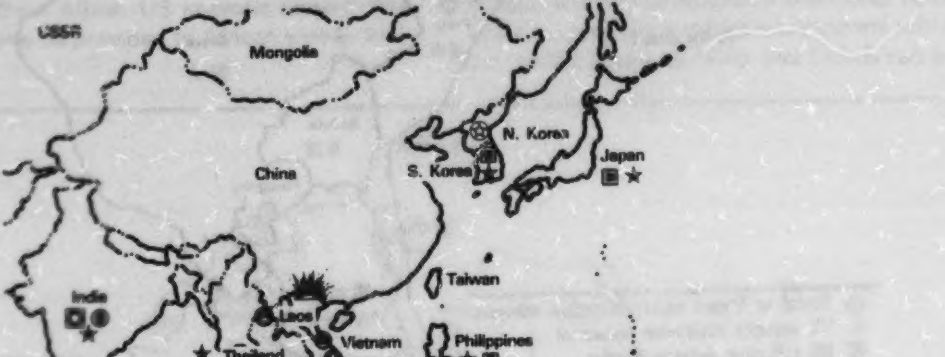
ground force in the region and have expanded their naval presence and increased, as well as qualitatively enhanced, their overall military presence. North Korea and the Socialist Republic of Vietnam, supported by Soviet assistance, remain major sources of instability within the region (Figure I-5). The protection of US and allied interests in the Pacific and East Asian region continues to require forward-deployed air, ground, and naval forces and the ability to reinforce those forces quickly. Chapter IV provides further discussion of the military balance in this region.

Latin America

The security and stability of Latin America remain important US objectives. A considerable portion of US trade passes through the Caribbean and, if NATO is attacked, so would a large percentage of US supplies required for reinforcing NATO Europe (Figure I-6). Because of the proximity of Latin America, events there are important to the United States; instabilities and conflicts in this region could divert US attention and resources from other areas of the world.

The continued Soviet presence in the region, combined with Cuban and Nicaraguan activities, contribute to the spread of insurgency and discord, and compound the endemic social, political, and economic sources of instability already troubling many regional states. The Soviets have enhanced the capabilities of their Cuban client by providing mod-

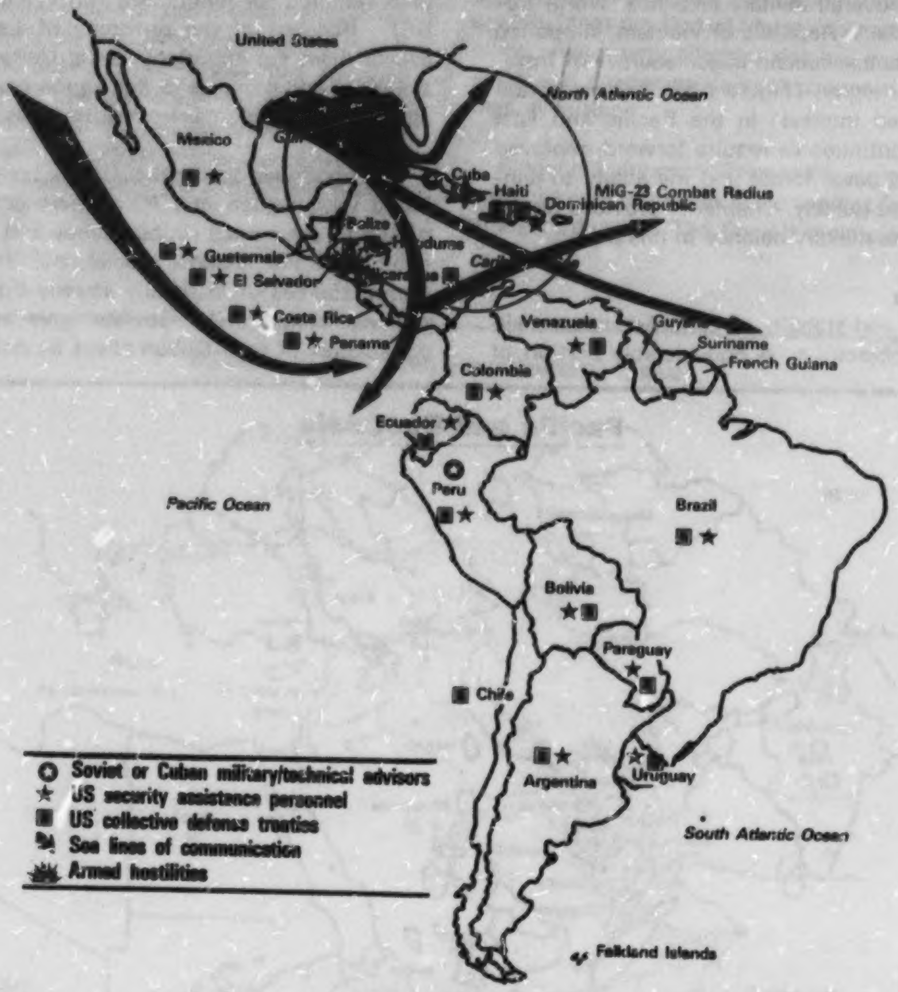
Pacific and East Asia


USSR
Mongolia
China
N. Korea
S. Korea
Japan
Taiwan
India
Laos
Vietnam
Thailand
Philippines
Cambodia
Singapore
Malaysia
Indonesia
Australia
New Zealand
○ Soviet technicians or military advisors
⊕ Active Soviet defense treaties
▣ Soviet defense cooperation
◉ Active Soviet treaties of friendship
★ US security assistance personnel
▦ US collective defense treaties
Armed hostilities

As of 1 January 1986

FIGURE I–5

Latin America


United States
North Atlantic Ocean
Mexico
Cuba
Haiti
Dominican Republic
MIG-23 Combat Radius
Belize
Honduras
Guatemala
El Salvador
Nicaragua
Costa Rica
Panama
Venezuela
Guyana
Suriname
French Guiana
Colombia
Ecuador
Peru
Pacific Ocean
Brazil
Bolivia
Paraguay
Chile
Argentina
Uruguay
South Atlantic Ocean
Falkland Islands
Soviet or Cuban military/technical advisors
US security assistance personnel
US collective defense treaties
Sea lines of communication
Armed hostilities

As of 1 January 1986

FIGURE I–6

ern and sophisticated military equipment. The combined Cuban and Soviet military assistance provided Nicaragua has enabled that country to become the strongest single military power in Central America. Currently, external support to leftist insurgents in El Salvador and the arms buildup in Nicaragua are the issues most affecting US security interests in Latin America. The Soviet Union is attempting to expand its presence and influence in nations throughout the region by economic and other means.

In view of threats to regional interests, the United States must continue to strengthen its relations with the nations of Latin America on the basis of mutual interests. The United States must demonstrate that it is a reliable security partner by helping friends and allies deter and defeat insurgencies, and by assisting in the development of combined military capabilities that serve collective security objectives. Increased security assistance, intelligence sharing, and close military ties will help create conditions under which nations of the region can work to eliminate the underlying causes of instability. Chapter IV contains a discussion of the military balance in Latin America.

Africa

US security interests in Africa stem from the resources that continent provides Western nations and the transit facilities which might affect US operations in the Mediterranean, Middle East, and Southwest Asia regions. These and other interests are adversely affected by the instability and turmoil in the area, which have made many nations vulnerable to influence by the Soviets and their surrogates (Figure I-7). For instance, Libya's involvement in regional conflicts adds significantly to the difficulties faced by affected states.

Around the Horn of Africa, the presence of Cuban forces and Soviet advisors in Ethiopia aggravates tensions. Internal power struggles in Sudan and Uganda, as well as civil unrest in South Africa, pose additional stability challenges in the region. Elsewhere, the presence of Cuban (35,000 personnel) forces and approximately 1,000 Soviet advisors in a divided Angola continues to be an obstacle to efforts to improve stability in southern Africa. US interests require that security assistance be provided to African friends and allies.

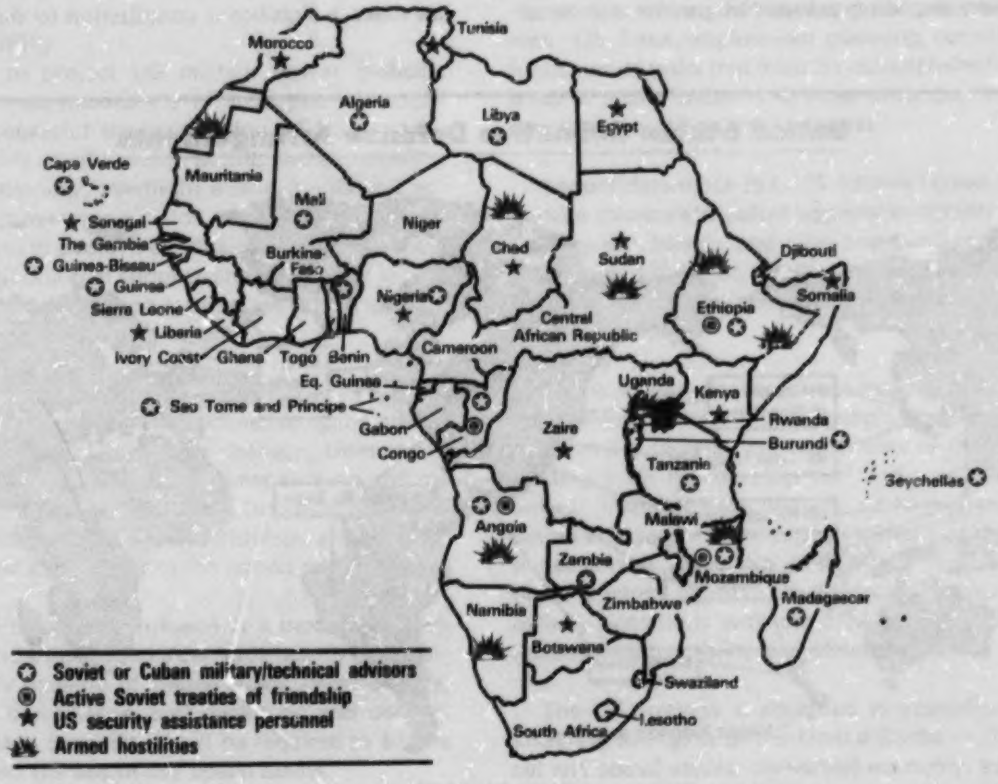
Implications for US Strategy and Forces

Military strategy is designed to meet the challenges to US security interests. Such interrelated factors as US-Soviet relations, relative strengths of major nations, global military balance, arms control agreements, and current regional military situations must be considered in the formulation of strategy and the development of forces to support it. US military strategy and force levels must be adequate to confront a wide range of challenges, from low-intensity conflict to threats involving modern conventional and nuclear forces.

US MILITARY STRATEGY

The security requirements summarized above form the basis for US military strategy to support the more comprehensive national security objectives. The US military strategy is defensive and seeks to deter war while maintaining a secure environment within which the United States, its allies, and friends can pursue le-

Africa


Tunisia
Morocco
Algeria
Libya
Egypt
Cape Verde
Mauritania
Mali
Niger
Senegal
The Gambia
Guinea-Bissau
Guinea
Sierra Leone
Liberia
Ivory Coast
Ghana
Togo
Benin
Burkina Faso
Nigeria
Chad
Sudan
Djibouti
Somalia
Ethiopia
Central African Republic
Cameroon
Eq. Guinea
Sao Tome and Principe
Gabon
Congo
Zaire
Uganda
Kenya
Rwanda
Burundi
Tanzania
Seychelles
Angola
Malawi
Zambia
Mozambique
Madagascar
Zimbabwe
Namibia
Botswana
Swaziland
Lesotho
South Africa
○ Soviet or Cuban military/technical advisors
◉ Active Soviet treaties of friendship
★ US security assistance personnel
Armed hostilities

As of 1 January 1986

FIGURE I–7

gitimate interests. This strategy of deterrence is rooted in a national commitment to peace and freedom.

Elements of the Strategy

The fundamental elements of US military strategy are nuclear deterrence supported by negotiated arms reductions and the Strategic Defense Initiative (SDI); strong alliances; forward-deployed forces; a strong central reserve; force mobility; freedom of the seas, air, and space; effective command and control; and good intelligence.

Nuclear Deterrence With Arms Reductions

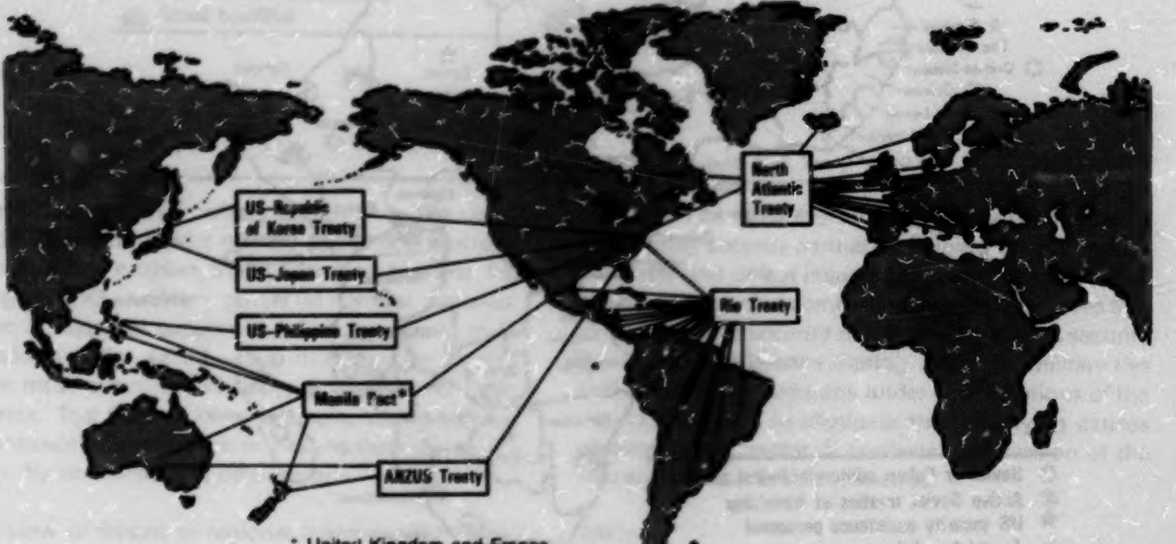
The fundamental objective of US nuclear forces is to remove all incentives for direct attack against the United States and its allies by promising any attacker a devastating outcome. The Soviet Union has continued to challenge the US guarantee of effective retaliation and has threatened US deterrent capabilities by strengthening certain measures of Soviet nuclear strength. To counter growing Soviet nuclear warfighting potential, the United States gives high priority to the modernization of its nuclear forces and the study of means for defending against ballistic missile attack. Equitable and verifiable arms reduction agreements are being pursued in parallel with modernization programs. The goal of the United States is a more stable nuclear balance at lower levels of armament.

Strong Alliances

US military strategy is based on a system of strong alliances (Figure I-8). The shared values and combined economic strength of friendly countries provide a firm basis for effective collective security among the NATO nations and US allies elsewhere. The cohesion of US collective security arrangements requires understanding that interests of the United States and its allies may not always coincide. Nevertheless, US alliances are more reliable than those of the Soviet Union because they are built on voluntary association, shared values, mutual trust, common purpose, and strong commitment.

In this period of challenges to the nuclear balance between the United States and the Soviet Union, conventional military forces have become increasingly important. The Warsaw Pact has fielded large armed forces with modern conventional, chemical, and nonstrategic nuclear weapons. The United States alone does not match these forces in numbers. The allies make a significant contribution to deterrence by

United States Collective Defense Arrangements



* United Kingdom and France

As of 1 January 1986

FIGURE I-8

providing weaponry, well-trained manpower, facilities, and control of key geographical areas, thereby enabling the Free World to meet Soviet challenges.

Forward-Deployed Forces

A key factor in the success of US alliances is the forward deployment of military forces. These forces demonstrate the US commitment to the common defense and serve notice that an attack will be met immediately by US opposition. In peacetime, the American presence among allies reduces the coercive potential of Soviet military threats and facilitates early reinforcement in crisis. In the event deterrence fails, forward-deployed forces ensure a strong combined defense.

Central Reserve

The majority of US nuclear and conventional forces are based in the United States. The readiness and preparedness of these forces to deploy contribute to deterrence of major conflict. These forces provide the capability to reinforce and sustain forward-deployed forces in combat, and help deter or contain conflicts in areas of interest where the US has no permanent military presence.

Force Mobility

In order to project US military power globally, US forces must maintain a high degree of mobility. The successful implementation of US strategy requires highly capable airlift, sealift, and air refueling forces. Additionally, overflight arrangements and access rights to overseas airfields, ports, and staging areas contribute to deployment flexibility and efficiency. The pre-positioning of supplies and equipment in certain areas and host-nation support are also important components of US reinforcement.

Freedom of the Seas, Air, and Space

Freedom of navigation and access to space are inherent elements of US military strategy. Unimpeded use of the seas and aerospace allows support and reinforcement of forward-deployed forces, enables US and allied forces to operate worldwide, and ensures uninterrupted commerce for the nation and its allies.

Freedom to operate in space is a modern military requisite. The United States depends heavily on satellites for early warning of missile attack, weather data, navigation, surveillance, and command and control. Superior space capabilities will be required to ensure uninterrupted US use of key space assets.

Command and Control

Command and control is imperative to the successful employment and most effective use of our military forces. Command and control systems must be as survivable and endurant as the forces they support as these systems provide the essential link between the National Command Authorities (NCA), Joint Chiefs of Staff (JCS), and unified/specified commanders. Survivable facilities and systems that operate effectively during all phases of conflict add to deterrence and are vital should deterrence fail.

Intelligence

US military strategy depends heavily on accurate and timely intelligence for warning and the effective employment of military forces. Such intelligence increases the likelihood that forward-deployed and reinforcing forces will deter conflict or defend successfully, and maximizes the potential of modern weapon systems.

Applying the Strategy

US forces are not available to defend simultaneously against every threat with equal strength. Nonetheless, the United States must make it clear that its interests will be defended and obligations to allies met. US force employment planning considers the fundamental tasks that must be accomplished and the need to retain flexibility to meet other contingencies that threaten US security interests.

Should deterrence fail, US military forces will undertake missions to defeat aggression against the US, its allies and friends, and terminate conflict on favorable terms. US forces would seek to limit the scope, duration, and intensity of any conflict in which they were involved.

Sound military doctrine is essential to the successful implementation of US strategic concepts. Joint doctrine ties together the capabilities of the Services, guiding both the development and employment of forces. Effective joint doctrine helps prevent duplication and gaps in Service capabilities and aids in the translation of plans into execution. Likewise, combined doctrine provides a standardized reference for military operations with our allies, and therefore enhances interoperability and effectiveness.

The US strategy is designed to capitalize on the enduring strengths of the United States — its political and social values, diversified economy, advanced technology, and the will and ingenuity of its people. To succeed, US strategy will continue to require the help of supportive allies and remain adaptable and responsive to a changing world.

PROGRESS MADE

The ability of our nation's military forces to accomplish their warfighting tasks has continued to improve significantly. These enhancements encompass all aspects of military capability: force structure, modernization, readiness, and sustainability efforts.

The force structure within which US military forces are organized continues to change to give the balance needed to maintain the capability to respond at various levels of conflict. Funding has enabled movement toward a 28 division Army that has a better balance of light and heavy forces. The number of ships has increased to meet our expanding requirements and Air Force structure increases provide greater fighter aircraft capabilities. This expanding force structure needs modern equipment to meet the threat. Equipment from the strategic level to the very personal area of ground combat is being modernized and inventories have been increased. Much new equipment is more capable so performance per fighter has increased. Specifics are addressed in subsequent chapters.

Due to production limitations and equipment transition periods, modernization benefits will be distributed over the next several years. Training with evolving joint tactics makes our units more robust and allows fewer forces to protect more. Readiness efforts, on the other hand, have produced steady and measurable improvements all through the period. Mission capable rates of aircraft, the numbers of sorties and aircraft utilization rates, and abilities in strategic warning and attack assessment have all increased. The readiness of US military forces to execute assigned tasks is at a high state.

One important factor that influences preparedness to respond to threats is sustainability. Both ammunition and missile inventories have been increased. Aircraft sortie rates have also improved as a result of increased spare parts. Redundancy of command, control, and communications and increased electromagnetic pulse hardening of strategic time-sensitive sites have enhanced survivability and thus provide sustaining command and control.

The key, however, to mission accomplishment i the men and women who have chosen to serve. Th quality of men and women in the US Armed Forc has never been higher.

The combination of good people and effective programs has made US forces more professional, reliabl and capable. The continued support of the Congres and the American people will be critical to maintaining improvements in military preparedness.

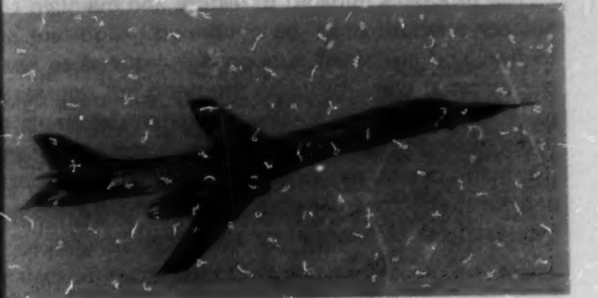
PREPARING FOR THE FUTURE

The proposed defense program for fiscal year (FY) 1987, despite reductions because of constraints, wi further improve the readiness, sustainability, modernization, and force structure posture of US militar forces. However, progress will not be as rapid as desired and emphasis on adequate fiscal resources i essential to ensure that our warfighting capabiliti continue to improve.

The United States continues to place a high priority on the modernization of its strategic forces. Th

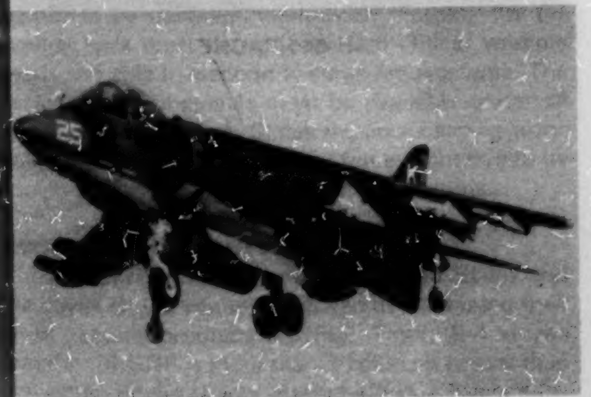
AEGIS CRUISER

im of this vital effort is to make command and ontrol systems more survivable while retaining and nproving all legs of the TRIAD. The development nd deployment of the PEACEKEEPER missile, the Small Intercontinental Ballistic Missile (SICBM), the RIDENT II (D-5) submarine-launched ballistic mis- ile system (SLBM), the B-1B and Advanced Tech- ology Bomber (ATB), the AGM-86B Air-Launched Cruise Missile (ALCM), and the Advanced Cruise Missile (ACM) will help improve the US strategic deterrent. These nuclear weapon modernization programs are essential for deterrence and to enable the United States to enter meaningful arms reduction agreements.



B-1B BOMBER

TRIDENT BALLISTIC MISSILE SUBMARINE



AV-8B HARRIER

A major effort is under way to address the feasibility and desirability of developing defenses against ballistic missiles. Under the President's SDI, research is being conducted on potential technologies that might provide a defense against ballistic missiles.

In recognition of the increasing role of space in supporting national security interests, the United States has established a unified command for space. The new unified command better serves US interests and the needs of our allies by providing an organizational structure that centralizes operational responsibilities for more effective use of military space systems.

Emphasis on nonstrategic nuclear force modernization continues with the production of modernized field artillery warheads and the fielding of PERSHING II, sea-launched nuclear TOMAHAWK land-attack cruise missiles (TLAM/N), and ground-launched cruise missiles (GLCMs). Improved command, control, and communications will increase the survivability, flexibility, and deterrent capability of deployed nonstrategic nuclear forces.

The modernization of conventional forces is another key objective of the US defense program. Land forces are undergoing organizational changes to improve their flexibility and maximize the effectiveness of recently introduced weapons, such as the ABRAMS tank, BRADLEY fighting vehicle, AH-64

B-52 AGM-86B LAUNCH

(APACHE) and UH-60 (BLACKHAWK) helicopters, Multiple-Launch Rocket System (MLRS), and PATRIOT and STINGER air defense systems. As a result of organizational improvements, the Army's 17 Active and 9 National Guard divisions have been restructured to 18 Active and 10 National Guard divisions.

The United States continues to build toward a 600-ship Navy with 15 carrier battle groups, 4 battleship battle groups, 100 modernized attack submarines, and expanded amphibious assault and sealift capabilities. Additionally, more capable combat aircraft and modernized munitions are being obtained to build and strengthen an Air Force with an interim goal of 40 tactical fighter wing equivalents.

These programs, together with maritime prepositioning ships (MPS), increased strategic airlift and sealift, and revitalization and modernization of special operations forces, will enhance the readiness posture of US forces and their sustainability. Finally, added attention to cross-service and allied requ ments has enhanced the applicability of these i provements to both joint and combined operation

Good soldiers, sailors, airmen, and marines a essential to successful implementation of the US m itary strategy. Service manpower programs will co tinue to aim at recruiting and retaining quality m and women who value service to their nation a have the aptitude, skills, and motivation to ope and maintain modern weapon systems.

The programs initiated to restore and maintain U military strength must be continued. Constant a tention and sustained support are required to ke our forces strong. Although the trend in Congress to reduce defense spending, short-term attempts economize on military investments, whether in pe ple or equipment, can only lead to higher future co and a less effective military posture with the attenda increased risk to national security.

MULTIPLE-LAUNCH ROCKET SYSTEM

AH-64 APACHE

CHAPTER II.

STRATEGIC REQUIREMENTS AND RESOURCE COMMITMENTS

INTRODUCTION

US military strategy requires resources to maintain eadiness of the forces, modernize for the future, and rovide a recognized capability to mobilize additional orces rapidly. The US Armed Forces must, thereore, be supported by an efficient, effective national esource base. This chapter provides an overview of he US and Soviet resource bases that support military equirements.

The heavy Soviet investment in nuclear and conentional forces provides evidence of the high priority Soviet leaders place on military requirements. The United States devotes relatively fewer resources to ts military posture, in part because of the defenive nature of the US military strategy and the strucural differences in the two economies. The Soviet ystem of centralized planning has led to an overall weaker economy and a smaller economic base than he United States, but has allowed greater focus to be laced on areas of priority. Despite this smaller economic base, the Soviet Union has decided to direct more peacetime resources to military requirements han does the United States.

RESOURCES IN SUPPORT OF NATIONAL OBJECTIVES

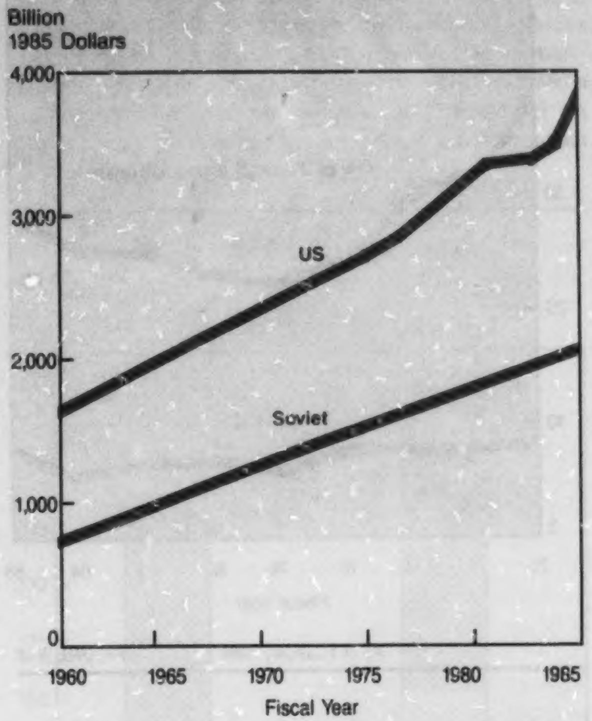
Overview

A nation's economy must be strong to support its national security objectives effectively. The industrial base must be capable of producing the required military equipment from available materials and be supported by adequate manpower. Further, the industrial base must be responsive to critical wartime needs and able to respond to surge requirements. The necessary raw materials must be available under all conditions. The United States requires a strong technological base to ensure that its forces continue to be equipped with qualitatively superior weapons.

Economic Support

The economic strengths of the United States and the Soviet Union can be compared by examining their gross national products (GNPs). Figure II-1 shows that the US GNP is more than 80 percent higher than that of the Soviet Union. Further, the gap has continued to widen in favor of the United States. Thus, the United States has a greater potential for supporting defense spending.

US-Soviet GNP

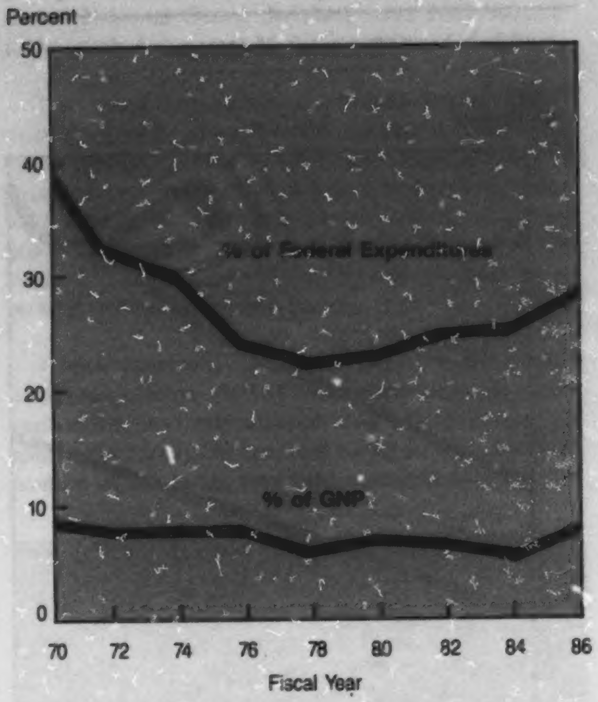


As of 1 January 1986

FIGURE II-1

The Soviet Union has steadily increased its defense expenditures. During the past 10 years, the Soviets have spent more than three times as much as the United States on strategic forces and about 1-1/2 times as much on conventional and nonstrategic nuclear forces. The Soviet inventory of weapons is far larger than that of the United States. Also, the average age of deployed Soviet weapons continues to decrease with the introduction of new and qualitatively improved systems. Although the decline in US defense spending has been reversed, as shown in Figure II-2, strong and sustained support for defense activities will be necessary in light of the Soviet's inventory expansion and continuing high rate of investment.

US Defense Expenditures as a Percentage of GNP and Federal Expenditures



As of 1 January 1986 *FIGURE II–2*

Industrial Base

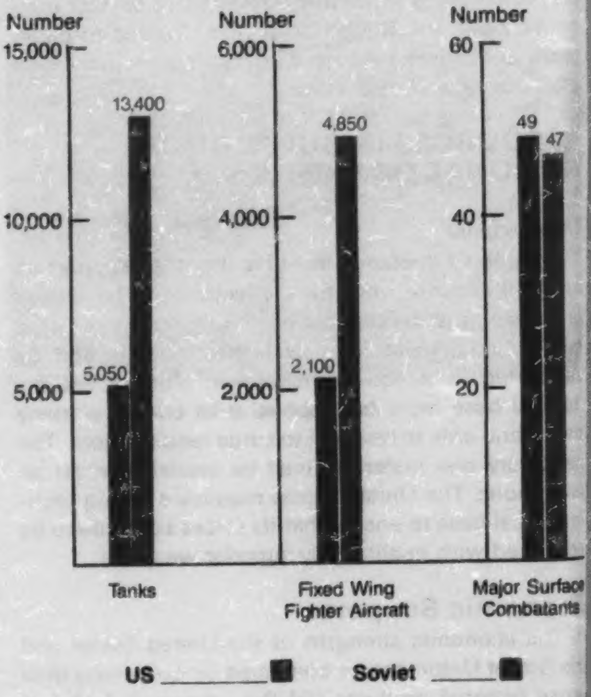
The military potential of nations can be measured, in part, by peacetime production bases and the capability for rapid conversion to wartime needs. The Soviet defense industry is now the world's largest, both in numbers of facilities and output capacity. Figure II-3 shows US and Soviet production of selected weapon systems over a 5-year period. If the full industrial capabilities of both nations were mobilized for military production, the United States initially would be unable to match Soviet industrial production. Over time, however, the United States, because of its much greater industrial base, could surpass Soviet capabilities in terms of both size and output. The timing and degree of emphasis the United States places on mobilization of its industrial base would be critical to the successful outcome of a major conflict with the Soviet Union.

Soviet weapon plants and war-related production facilities are continually active; as old weapon programs are phased out, new ones are begun. As a result, the Soviet arms industry is in a high state of readiness and is capable of rapid wartime expansion. In the United States, however, the increased emphasis of high-technology manufacturing and the growth of service industries, combined with the decline of heavy industry and traditional manufacturing required for arms production, have reduced the capacity to increase military production rapidly during periods of crisis.

US defense planners have taken several steps in the past few years to improve the ability of the US industrial base to support the military strategy. The Services are provided prioritized lists of systems identified by field commanders as most critical to their immediate requirements. Additionally, industrial pre-

US–Soviet Production of Major Weapon Systems

1981–1985



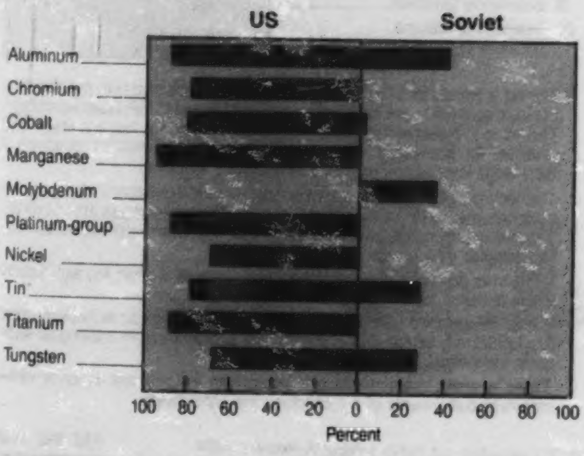
As of 1 January 1986 *FIGURE II–3*

paredness planning is receiving increased attention, and industrial mobilization is being addressed extensively in exercises. Incentive programs are stressing efficient and competitive peacetime production to meet the demands of wartime sustainability. There is a continuing need for investments to ensure that the necessary improvements are made to the US industrial base.

Natural Resources To Support Defense

The ability to mobilize and increase wartime production depends in part on the availability of critical raw materials. These materials must be indigenous to the country, stockpiled, or available over secure LOCs in time of war. The Soviet Union, which has extensive and varied mineral resources and a policy of self-sufficiency, relies on imports for only a few strategic raw materials, as shown in Figure II-4. The United States, on the other hand, relies on foreign sources for most strategic minerals. Both industry and government in the United States must anticipate problems in maintaining critical raw material stocks for military production in wartime and take necessary actions in peacetime to minimize that impact.

US–Soviet Reliance on Selected Mineral Imports



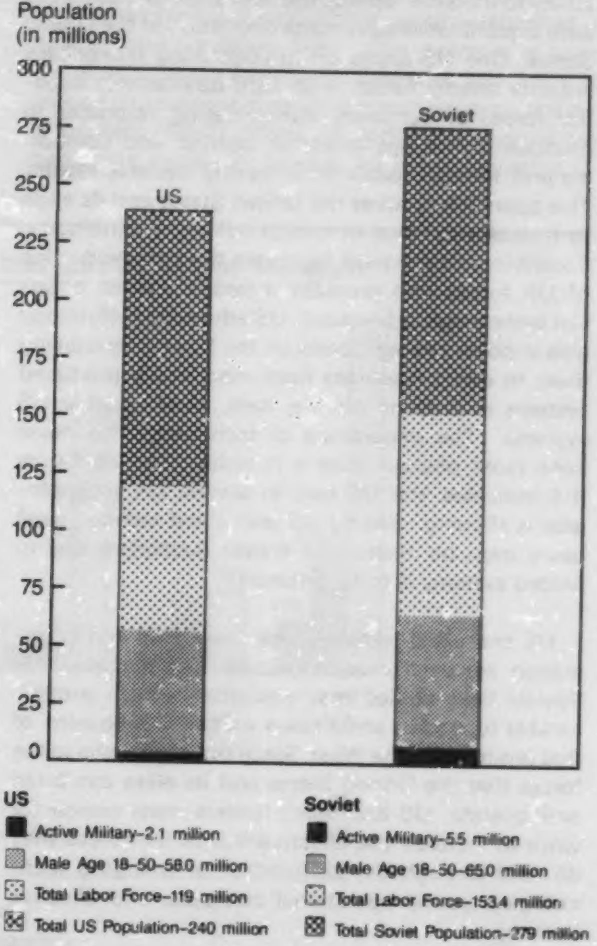
As of 1 January 1986 *FIGURE II-4*

Manpower in Support of Defense

Both the United States and the Soviet Union depend on large labor pools to man their armed forces and provide skilled labor to support their bases. While Soviet military forces are 2-1/2 times larger than those of the United States, the Soviet primary mobilization pool of 18 to 50 year-old males is only 12 percent larger (Figure II-5). Approximately 2 million males reach age 18 annually in each country.

Conscription is the principal source of Soviet military manpower. The period of service is normally 2 to 3 years. Soviet conscription significantly reduces personnel costs and guarantees a sizable trained manpower source for mobilization. Nine million of the estimated 50 million personnel within the Soviet reserve forces have served on active duty during the last 5 years.

US–Soviet Labor Force



As of 1 January 1986 *FIGURE II-5*

On balance, the Soviet manpower advantages lie in the numbers of personnel already under arms or involved in defense production, and the trained military mobilization pool. The size of the US labor pool should be sufficient to meet the demands of both the armed forces and military production because the United States has a less labor intensive production base. The ability of the United States to meet both demands will depend, in part, on the availability of adequate response time.

OVERCOMING A QUANTITATIVE DISADVANTAGE

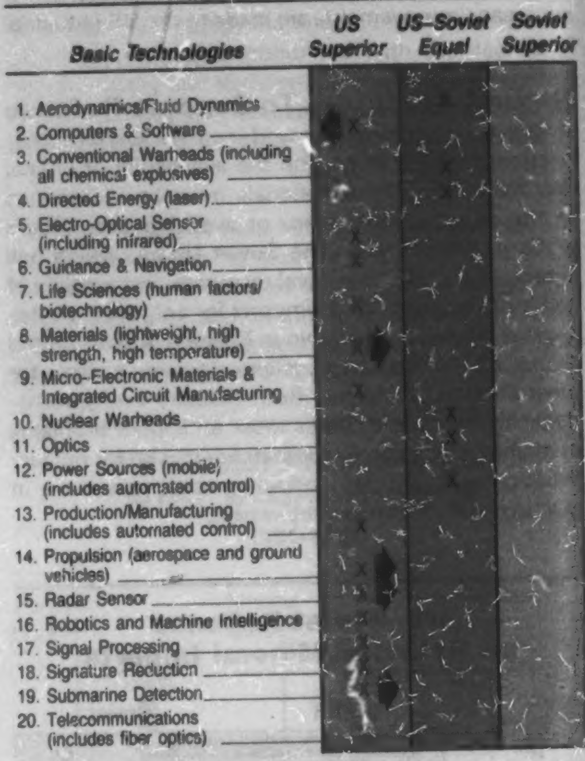
Technological Leadership

As a result of a larger peacetime military force, greater equipment and manpower reserves, and the ability to mobilize rapidly, the Soviet Union has forces with a quantitative advantage over those of the United States. One US approach to countering numerically superior enemy forces is to field qualitatively superior forces of our own, concentrating resources to produce technology-intensive combat and combat-support forces capable of achieving decisive results. This approach requires the United States and its allies to maintain the lead in critical military technologies. Technological progress increases the deterrent value of US forces and provides a hedge against a Soviet technological breakout. US advanced technology also imposes strategic costs on the Soviets by causing them to divert resources from more easily produced systems in order to counter new, more capable US systems. The importance of technology has never been more obvious than it is today. Yet, as Figure II-6 indicates, the US lead in several key technologies is slipping. Strong US and allied technological bases must be maintained if their qualitative lead in fielded systems is to be retained.

US and allied technological leadership and cooperation are even more important now because the Soviets have fielded new equipment which is comparable to, and in some cases exceeds, the quality of that produced in the West. Since there are limits to the forces that the United States and its allies can build and operate, US and allied leaders must search for ways to increase the effectiveness of the forces they do field through the exploitation of emerging technologies, sound operational concepts, and effective training.

Emphasis must be given to technologies that provide the greatest increase in capability and advantage while ensuring the readiness of current forces. High technology, however, cannot provide the solution to all military requirements. Technically superior equipment can only complement, not replace, superior planning, sound doctrine, proper training and sustained support. Every proposed application of new

Relative US–Soviet Standing in the Twenty Most Important Basic Technology Areas*



* The list is limited to 20 technologies, which were selected with the objective of providing a valid base for comparing overall US and USSR basic technology. The list is in alphabetical order. These technologies are "on the shelf" and available for application. (The technologies are not intended to compare technology level in currently *deployed* military systems.)

The technologies selected have the potential for significantly *changing* the military capability in the next 10 to 20 years. The technologies are not static; they are improving or have the potential for significant improvements; new technologies may appear on future lists.

The arrows denote that the relative technology level is *changing* significantly in the direction indicated.

The judgements represent overall consensus for each basic technology area. The USSR may be superior in some of the subtechnologies making up each basic technology.

These average assessments can incorporate a significant variance when individual components of a technology are considered.

As of 1 January 1986 **FIGURE II-6**

technology must strike a balance among technical sophistication, essential readiness, cost, utility, and endurance if it is to be effective in our force structure.

The maintenance of a US technological advantage also depends upon efforts to prevent the transfer of such technology from the United States and other advanced nations to the Soviets and other potential adversaries. The transfer of critical technology to potential adversaries reduces their cost of acquiring new capabilities, allows them to deploy new systems sooner, and provides data that can be used to counter the effectiveness of US weapon systems and equipment.

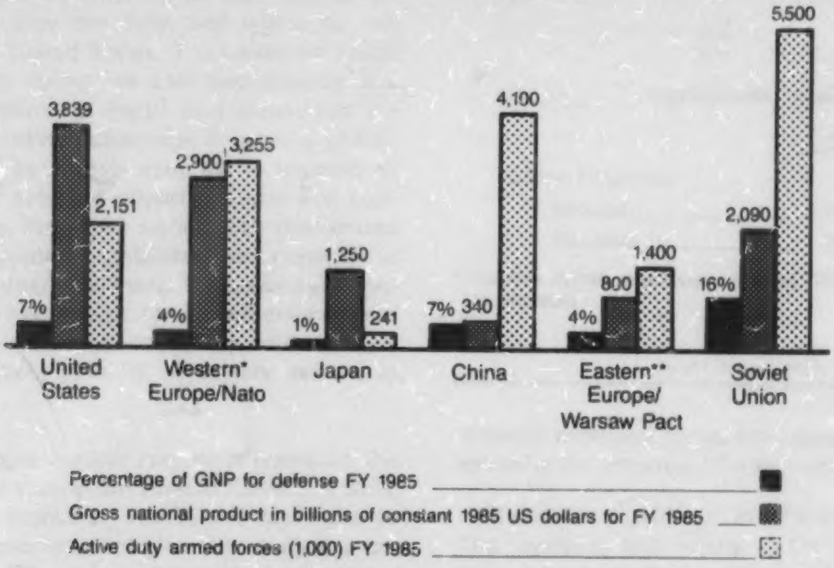
Allied Forces

Strong alliances are an important part of the US military strategy. The relative economic and military strengths of the major nations and blocs are indicated in Figure II-7. The figure shows the impressive potential of the democratic economies. US allies add substantially to the overall defense effort in terms of both defense activities and investment.

US and allied defense efforts must be integrated effectively to ensure that their collective capabilities are realized. The need persists for greater interoperability between US and allied equipment, ammunitions, and techniques, as well as command, control, communications and intelligence (C^3I) systems. The United States and its NATO Allies are continuing to improve capabilities for mutual support and coordination. Interoperability with friendly and allied Asian countries is improving through equipment and procedure modifications and frequent combined military exercises.

Strong alliances, combined with a continuing number of important initiatives that are beginning to result in industrial expansion and modernization, enable the United States to counteract the Soviet threat. Positive results from policies and programs established in recent years are being seen. One example is sharing of technology with NATO countries and Japan to reduce redundancy of expenditure in research and development (R&D) efforts. In addition, Congress has supported increased funding for surge industrial re-

Economic and Military Strength of Major Powers



* Excludes US, includes France and Spain

** Excludes Soviet Union, Albania, and Yugoslavia

As of 1 January 1986

FIGURE II-7

sponsiveness. Further activity involves an Industrial Modernization Incentives Program to provide contract incentives that encourage industry to make productivity enhancing capital investments.

A healthy and responsive industrial base and overall economy have been, and will continue to be, important elements of US national security. In the case of the industrial base, vigilant attention to quality, productivity, and efficiency, while at the same time maintaining a sufficient reserve capability to meet any potential crisis, is vital to our enduring national defense.

CHAPTER III. THE MILITARY BALANCE: NUCLEAR FORCES

INTRODUCTION

The military balance is critical to US and allied security. Adverse trends in either nuclear or conventional force capabilities lessen assurance that aggression against US and allied interests can be deterred and increase the risks of coercion. Although significant progress has been made toward redressing trends unfavorable to the West, this progress has not compensated fully for decades of high Soviet investment in force expansion and modernization. US programs are designed to improve the capabilities of the nuclear deterrent through the development and deployment of technologically advanced systems. The modernization of the US TRIAD, coupled with improvements in warning systems, command and control capabilities, and theater nuclear forces, is essential to reverse adverse trends in the nuclear balance and increase stability.

This chapter compares the strategic and nonstrategic nuclear forces of the Soviet Union with those of the United States. Chapter IV assesses conventional forces.

STRATEGIC FORCES

Soviet strategic doctrine holds that with superior capabilities they can fight and win a nuclear war against the United States. The sustained Soviet strategic buildup during the past two decades is a product of this thinking. Figure III-1 shows that the Soviets hold a distinct advantage in number of ballistic missiles. The Soviets continue to improve all aspects of their strategic offensive forces and supporting elements, they have significantly modernized command and control capabilities, and continue to build up their strategic defenses. The Soviets are convinced that strategic nuclear forces will deter attacks on the Soviet Union and reduce the will of others to challenge Soviet political or military actions in general.

The US strategic nuclear posture is based on the TRIAD, a combination of land-based ICBMs, SLBMs, and long-range bombers. The TRIAD continues to provide a balanced range of offensive retaliatory capabilities. The US nuclear deterrent also includes warning systems and command and control capabilities that provide connectivity and positive control between the strategic forces and the NCA. Additionally, strategic defensive forces contribute to deterrence by reducing the potential effectiveness of an attack.

Strategic Offensive Forces

US		Soviet	
	ICBMs		
TITAN	17	SS-11	450
MINUTEMAN II	450	SS-13	60
MINUTEMAN III	550	SS-17	150
	1,017	SS-18	308
		SS-19	360
		SS-25	45
			1,373
	SLBMs		
POSEIDON (C-3)	288	SS-N-5	39
TRIDENT I* (C-4)	360	SS-N-6	304
	648	SS-N-8	292
		SS-N-17	12
		SS-N-18	224
		SS-N-20*	80
		SS-N-X-23	32
			983
	Bombers		
B-52G	167	BEAR	130
B-52H	96	BISON	30
FB-111	61	BACKFIRE	270
B-1B	3		430
	327		

Approximate Totals

	US	Soviet
Delivery Vehicles		
• Missiles	1,665	2,356
• Bombers	327	430

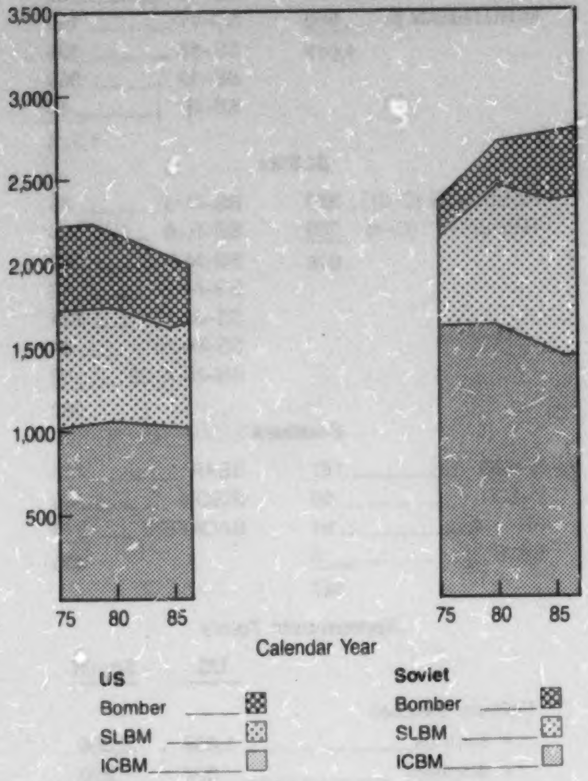
* includes SLBMs potentially carried on TRIDENT and TYPHOON on sea trials

As of 1 January 1986 ***FIGURE III-1***

The need to maintain an effective TRIAD is clear. The capability and variety of the US TRIAD of offensive forces complicate Soviet first strike planning and give the United States the resiliency and flexibility for a measured response to any type of attack. Past US strategic force modernization efforts have not kept pace with the improvements in Soviet capabilities (Figure III-2). The strategic modernization program is designed to rectify this situation and requires sustained commitment.

Strategic Forces*

Strategic Nuclear Delivery Vehicles (SNDV)



* Total active inventory (includes FB-111 and BACKFIRE)

As of 1 January 1986 *FIGURE III-2*

Strategic Offensive Forces

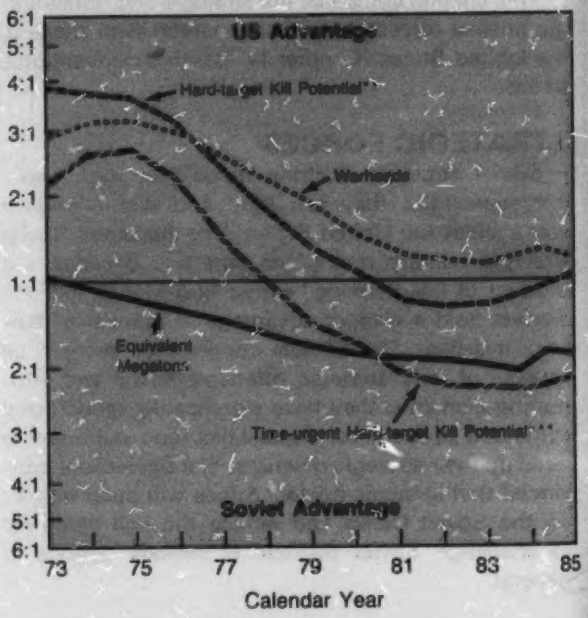
Strategic Offensive Force Potential

The assessment of the military balance is a complex process involving quantitative analyses as well as judgments concerning such intangible and unquantifiable factors as leadership, training, and morale. Static force measurements can provide useful comparisons of capabilities, but do not adequately reflect the interaction of forces in war. This is especially true in light of ongoing Soviet efforts to offset US strategic improvements by increasing the hardness, defense, and mobility of their forces. Whenever possible, static force comparisons should be complemented by dynamic analyses that attempt to incorporate operational factors and provide a better picture of the military balance.

US and Soviet strategic force potential can be compared by an examination of such static measures as equivalent megatons and numbers of systems. The trends in strategic nuclear force capabilities displayed in Figure III-3 will begin to show a reversal as a result of the US strategic modernization program. The relative strategic force capabilities depicted represent a general summation of force attributes. Such measures do not reflect the adequacy of a military force for a specific mission, although they are useful in describing relative trends.

Strategic Forces*

Preattack Static Ratio Comparison



* Total active inventory (includes FB-111 and BACKFIRE)

** Hard-target kill potential represents ability to destroy targets reinforced to withstand some effects of a nuclear blast.

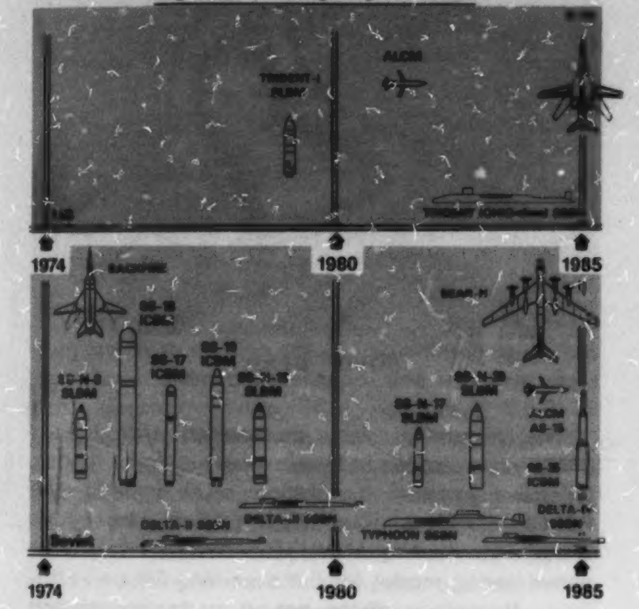
*** Calculations are based on potential against identically hardened targets.

As of 1 January 1986 *FIGURE III-3*

The principal factors contributing to the favorable Soviet trend are the deployment of fourth-generation

ICBMs and modernization of their submarine force, which will significantly increase their inventory of high-quality strategic warheads. The Soviet deployments are shown in Figure III-4. The Soviets have increased ICBM strategic warheads more than threefold over the past decade. During the same period, the number of US strategic warheads increased to a lesser extent as the US inventory shifted to a slightly higher number of warheads of lower average yield.

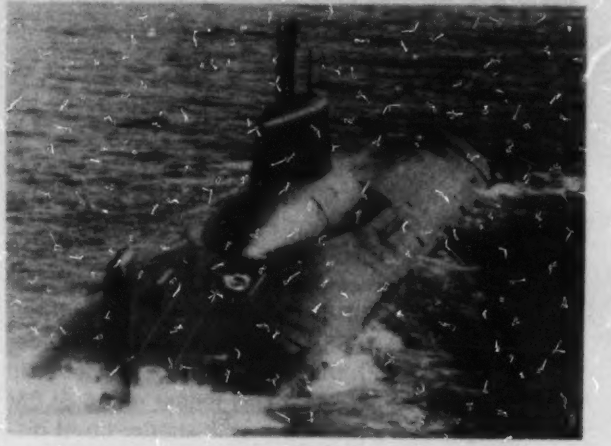
Major Strategic System Deployments



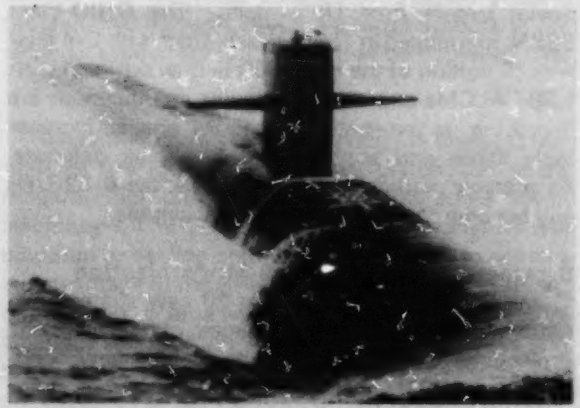
As of 1 January 1986 *FIGURE III-4*

The predominant system of the Soviet nuclear force is the land-based ICBM. The Soviets have achieved a significant increase in the capability of this force through the deployment of large numbers of high quality reentry vehicles (RV). Today, the most accurate versions of the SS-18 and SS-19 missiles are capable of destroying most time-urgent and hardened targets in an initial attack on the United States using multiple targeting. Additionally, the Soviets are mounting a considerable effort to increase strategic force survivability and endurability through mobility. The SS-25 mobile ICBM is only one example of these strategic relocatable targets (SRTs). These SRTs could form the backbone of a significant reserve force capable of eluding our weapon systems.

The Soviets are also modernizing their SLBM force. Since 1974 they have deployed four new classes of nuclear-powered ballistic missile submarines (SSBN) and a fifth is expected to be fully operational soon. The DELTA-II, -III, and -IV-classes reflect evolutionary improvements in submarine and missile systems capabilities. The earlier DELTA-I and the DELTA-II carry the SS-N-8 single RV missile; the DELTA-III carries SS-N-18 multiple, independently targetable RV (MIRVed) missiles. To date, the Soviets have launched four TYPHOON-class SSBNs, three of which are operational. TYPHOON-class submarines carry 20 SS-N-20 missiles. These missiles are estimated to carry six to eight warheads and have a range of approximately 5,000 nautical miles (nm). All of these newer systems are capable of striking



TYPHOON BALLISTIC MISSILE SUBMARINE



USS GEORGIA (SSBN-729)

targets throughout most of the United States from Soviet home waters. The Soviets have launched two DELTA-IV-class ballistic missile submarines which should become operational soon. The DELTA-IV is intended to carry the MIRVed SS-NX-23, which is also expected to be retrofitted into DELTA-III.

The Soviets continue to improve their strategic bomber force. New production BEAR AS-15/ALCM carriers continue to enter the force. Moreover, these ALCM-carriers now conduct routine intercontinental training to various points off the North American coast. Some older, long-range BEAR aircraft are being reconfigured to carry the more capable, supersonic AS-4 air-to-surface missile (ASM), thereby increasing their capability to threaten the continental United States (CONUS). BACKFIRE bombers are estimated to have the technical capabilities to reach some or all of CONUS depending on various assumed operational factors.

Since the early 1970s US strategic force improvements have focused on modifications to existing systems. Major improvements to the US ICBM force since the upgrading of the MINUTEMAN silos in 1973 have been the fielding of higher yield warheads for a portion of the MINUTEMAN III force and a forcewide MINUTEMAN III guidance upgrade program, now approximately 75 percent complete. US SLBM capabilities were improved by equipping the entire force with MIRVed missiles. In addition, between 1979 and 1983, 12 POSEIDON submarines were retrofitted with the more accurate, higher yield TRIDENT I (C-4) missile. This longer range SLBM allows expanded patrol areas with shorter travel distance to patrol stations. The C-4 missile provides the United States a limited capability to launch against Soviet targets from US waters. The OHIO-class SSBN, introduced in 1982, is also fitted with C-4 missiles. A portion of the B-52 fleet is now outfitted with 1,384 ALCMs and aircraft avionics modifications are improving its penetration capability against increasingly dense and sophisticated Soviet air defenses. As strategic modernization progresses, the B-52G/Hs will become standoff cruise missile carriers.

Strategic Offensive Force Modernization

The Soviets have more than 30 new strategic offensive systems in various stages of development. Projections for the next decade include new solid-propellant ICBMs, both silo-based and mobile, a liquid propellant SS-18 follow-on, and improvements to the currently deployed ICBMs. Follow-on systems are expected to have greater accuracy and targeting flexibility. SLBM projections include continued deployment of the SS-N-20 SLBM and testing of the SS-NX-23. The deployment of the BEAR H and eventually the BLACKJACK A intercontinental bombers will significantly increase the airbreathing threat; both bombers will carry AS-15 long-range cruise missiles and improved variants or follow-ons to the AS-15 which are expected by the 1990s. The airbreathing threat will also include land- and sea-launched cruise missiles with maximum ranges of 1,600 nm.

SOVIET BEAR H

The US strategic force modernization program is intended to redress adverse strategic force trends. Offensive force modernization plans include 100 PEACEKEEPER missiles. The first 50 missiles will be deployed in existing MINUTEMAN silos while alternative basing modes for the remaining 50 are examined. Regardless of the basing mode, maintaining deterrence is still the central issue and PEACEKEEPER provides the needed military capability to strengthen our deterrent posture. Initial operational capability (IOC) for the system is scheduled for late 1986. Modernization plans also include development and deployment of a small ICBM capable of mobile basing. IOC is late 1992. In addition, at least one TRIDENT SSBN will be produced per year. The D-5 missile will commence deployment on TRIDENT II configured SSBNs in 1989. The first B-1B bomber has already been delivered to Strategic Air Command (SAC) and the weapon system has an IOC of September 1986. Production of the ATB in the early 1990s will complete the second phase of the bomber modernization program. The diversity of the B-1/ATB combination will ensure a continued US ability to penetrate Soviet airspace and attack the full spectrum of fixed and relocatable targets. Deployment of these systems will demonstrate US resolve to establish a more stable nuclear balance.

The full deployment of 100 PEACEKEEPER missiles will provide 1,000 highly accurate, time-urgent weapons and a partial answer to our shortfall in prompt, hard-target kill capability. As part of the modernization effort, engineering development was started on a small single-warhead ICBM. This new missile will complement the PEACEKEEPER with its prompt, hard-target capability and its low target-value to the Soviets. Early basing considerations have focused on mobility as a primary means to enhance system survivability. Concurrently, the MINUTEMAN force is being modernized to ensure its continued reliability, responsiveness, and supportability.

The TRIDENT SSBN will support the D-5 missile now under development. The D-5 missile will deliver a larger payload with improved accuracy at a range of 4,000 nm. The accuracy-payload combination will give the SLBM force a hard-target kill capability at ranges that maintain submarine survivability.

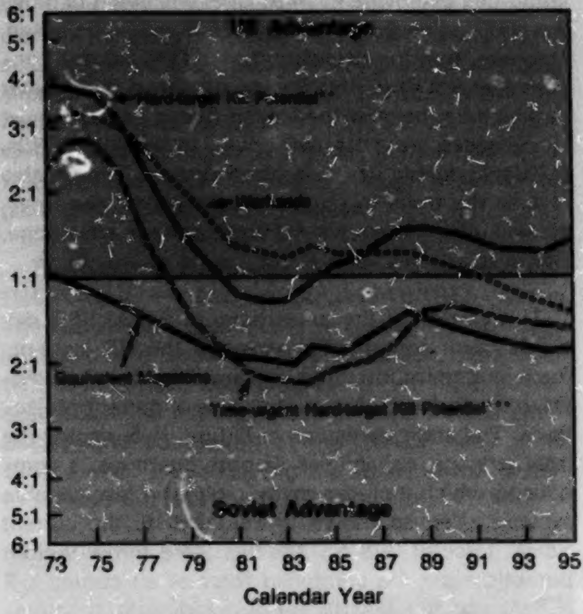
The B-1B is an important TRIAD modernization program. With its high speed, low altitude capability, its reduced radar cross-section, and improved electronic countermeasures (ECM) equipment, the B-1B complicates detection and interception by Soviet defenses. The B-1B is designed to penetrate Soviet defenses well into the 1990s. The strategic modernization program also calls for the development of an ATB with stealth characteristics. Plans call for the ATB to deploy in the 1990s to penetrate an increasingly sophisticated Soviet air defense system.

B-1B

Figure III-5 compares static measures of the United States and Soviet strategic offensive force capability for the period 1973-1995 and includes current accuracy estimates for the PEACEKEEPER and SS-18 ICBMs. The Soviet force projections represent a moderate force that is a continuation of current trends. The US force consists of weapon systems programmed through 1990 plus those systems in the strategic modernization program to be deployed after 1990.

Strategic Forces*

Preattack Static Ratio Comparison
(with current Soviet trends)



* Total active inventory (includes FB-111 and BACKFIRE and deployment of 100 PEACEKEEPERs)

** Hard-target kill potential represents ability to destroy targets reinforced to withstand some effects of a nuclear blast.

*** Calculations are based on potential against identically hardened targets.

As of 1 January 1986 *FIGURE III-5*

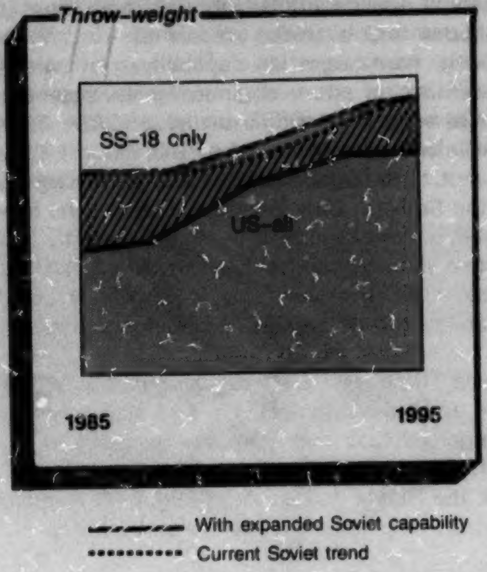
Figure III-5 shows trends favoring the Soviet Union until the late 1980s, at which time the benefits of US modernization programs begin to offset some Soviet advantages. The US advantage in total warheads will continue to decline until the Soviets begin to achieve an advantage in the early 1990s. The projected quantitative and qualitative growth in Soviet offensive weapons should continue to be offset by planned and programmed US modernization efforts. The increased effectiveness of the PEACEKEEPER ICBM, TRIDENT D-5, and the potential capabilities of the small ICBM will act as a counterbalance to the Soviet time-urgent hard-target kill potential (HTKP) represented by their SS-18 and SS-19 forces. Even though the United States lost its HTKP advantage in 1981, improvements in US ballistic missiles and the bombers and continued deployments of ALCMs will begin to move the HTKP toward a US advantage. It should be noted, however, that the calculation of HTKP did not consider that Soviet ICBM silos are hardened to a greater degree than those of the United States or that Soviet air defenses are more extensive. In the late 1980s, US deployments of modernized systems should also reverse the trend in equivalent megatons; the Soviets will retain an equivalent megatonnage advantage, however.

The validity of the projections in Figure III-5 depends upon continued progress in the US strategic force modernization effort and assumes that the Soviets will not deploy forces in excess of current projections. The static measures in Figure III-5 display the total strategic capabilities of both countries, a comparison which includes many older and less capable systems. Yet, as shown in Figure III-6, the current Soviet force of 308 SS-18s has more throw-weight potential than the combined force of all current US ICBMs and SLBMs. If the Soviets increase the number of warheads carried on each SS-18, which is within their capability, the corresponding equivalent megatons and HTKP of the SS-18 could approach the capabilities of the entire modernized US ICBM and SLBM force.

Strategic Offensive Force Effectiveness

Static measures neglect some differences in force quality and employment strategy. These aspects are best captured in a dynamic comparison that examines Soviet improvements in defensive forces, counterforce capabilities, reload and refire capabilities, and wide deployment of strategic offensive systems in multiple basing modes. The Soviets have sought to limit damage to their warfighting capability by hardening ICBM silos to levels well above those of the hardest US silos and deploying new generation missiles designed for mobile operation. The Soviets have begun upgrading the antiballistic missile (ABM) system deployed around Moscow, prepared hardened underground facilities for their key leadership and civilian work force, and planned for dispersal of conventional forces and urban populations. Static measures reflect none of these factors.

SS-18 vs Entire US Missile Force (ICBM & SLBM)



As of 1 January 1986 *FIGURE III-6*

Dynamic analyses reflect the different target objectives and characteristics for each side. Studies show that potential targets in the United States are considerably fewer in number and less dispersed than those in the Soviet Union. Further, targets in the Soviet Union have been hardened to a far greater degree. Additionally, these analyses assumed that the ABM Treaty remained in effect, opposing sides employed nuclear weapons only in homeland exchanges, and all forces on both sides received and executed a launch order. Improvements to US forces resulting from the strategic modernization program will help lessen this disparity and contribute to stability.

Command and Control

Soviet Command and Control

The Soviets have deployed extensive and modern command, control, and communications systems to provide centralized control over their military commands. The Soviets expect to be able to communicate with their forces during a strategic nuclear exchange and to direct all operations. Toward this end, the Soviets have constructed hardened, deep-underground facilities for the primary national military and civilian authorities. These facilities are equipped with multiple means of communication. Soviet systems emphasize survivability, redundancy, and flexibility and provide extensive internetting of communications from the Soviet high command to lower echelons.

US Command and Control

The credibility of the US strategic deterrent depends on command and control systems that provide positive control for the effective employment of the TRIAD. US command and control systems require security, speed, flexibility, reliability, and survivability to assure connectivity before, during, and after a nuclear attack.

Before and during the early stages of an attack, command and control systems must be able to provide timely warning to the NCA and strategic forces that an attack has been initiated. These systems must not only define the nature of the attack to allow appropriate defensive and damage-limiting actions, but also permit the NCA to direct the appropriate response. Tactical warning and attack assessment (TW/AA) sensors and communications are used to detect and forward hostile attack information to command authorities. Reliable surveillance systems must provide timely, unambiguous warning of attacking missiles.

Effective missile warning requires the sensing of an attack by at least two different methods in order to increase warning confidence. US ground- and space-based systems are designed to provide the necessary warning and confirm the launch of attacking missiles. The capabilities of many TW/AA systems are improving.

Many systems are vulnerable to high-altitude nuclear effects. Numerous improvements are being made by the introduction of new systems which will reduce communications uncertainties during attack and provide the NCA more effective warning and assessment for force management. Improvements such as jam-resistant secure communication equipment, laser communication data links, secure voice conferencing, low to extremely low frequency communications, and extremely high frequency communication satellites will be fielded.

The Worldwide Military Command and Control System (WWMCCS) provides the means for the NCA, JCS, and commanders in chief of the unified and specified commands (CINCs) to direct and control the operations of US military forces in crises and during conventional or nuclear war. The most survivable element of the WWMCCS is a series of worldwide airborne command posts and communications relay aircraft referred to as the WWABNRES (WWMCCS Airborne Resources System). In the event ground systems are damaged or destroyed, the WWABNRES provides communications through which strategic nuclear forces can be directed.

The National Emergency Airborne Command Post (NEACP) is the hub of the WWABNRES system. The NEACP is based inland to ensure that it can be launched and survive a surprise attack. The addition of automatic data processing (ADP), expanded use of satellite communications, secure-voice capabilities, and conversion of the NEACP fleet to the E-4B aircraft are increasing the ability of this system to support the NCA.

E-4B NEACP

Continued development and deployment of the Groundwave Emergency Network and a new communications satellite system, Military Strategic Tactical Relay (MILSTAR), are required to ensure that NCA decisions reach executing forces during the critical early stages of an attack. The command and control systems of airborne command posts are being modified to protect against high-altitude nuclear detonation effects. Additionally, an ELF communications system is being developed to improve strategic connectivity to SSBNs.

The Nuclear Planning and Execution System will enhance data processing capabilities for the National Military Command System (NMCS) and CINCs. Deployment of the Nuclear Detonation Detection System on Global Positioning System satellites will significantly improve assessment capabilities.

Strategic Defense

Strategic Defensive Forces

The Soviet Union has pursued a full range of strategic defensive programs to protect leaders, preserve vital functions of government, and limit damage from retaliation. The US strategic defensive programs have been less comprehensive and have focused primarily on surveillance, warning, aircraft modernization, and limited air defense. Deployment of effective US strategic defensive systems would enhance deterrence by adding uncertainty to the possible outcomes of nuclear conflict and undermining an attacker's confidence in success.

The United States is reexamining the potential contributions of strategic defense toward maintaining stable deterrence. In the past, US strategic deterrence relied largely upon an assured retaliation capability. Both the Soviet and US strategic forces were relatively secure from a disarming attack. The continued Soviet strategic modernization and buildup threatens this stable environment. Effective US defenses can increase the uncertainty of the outcome of a Soviet preemptive attack and help strengthen deterrence. New technologies must be evaluated for US strategic defense.

Missile Defense

The Soviets continue to modernize their ABM system around Moscow and have a strong development program which could permit relatively rapid and widespread ABM deployment supported by a network of radars like the one near Krasnoyarsk, which is a violation of the ABM Treaty. In addition, vigorous Soviet directed-energy research and development efforts could lead to an additional ground-based ballistic missile defense (BMD) capability in the 1990s. To complement their BMD efforts, the Soviets have developed an extensive tactical warning and attack assessment capability based on launch detection satellites and over-the-horizon and phased-array radars.

Although the ABM Treaty allows limited defense of one site, the United States abandoned this approach in the 1970s (Figure III-7). If reinstituted, an active US defense will require a survivable AW/AA system that provides, in addition to detection and warning, the capability to discriminate weapons from non-threats and the capability to perform battle-management functions.

Defense Against Ballistic Missiles

US

ABM DEFENSE
- None since SAFEGUARD phased out in 1976
- Option for early deployment of terminal defense—hedge against USSR breakout
- Strategic Defense Initiative (1983)—research to determine technical feasibility of multilayered BMD

DIRECTED ENERGY WEAPONS
- Candidate technology under Strategic Defense Initiative

TACTICAL WARNING AND ATTACK ASSESSMENT
- 3 long-range detection and tracking radars (BMEWS)
- Phased-array warning system (PAVE PAWS)
- Perimeter acquisition radar attack characterization system
- Satellites
- COBRA DANE

Soviet

ABM DEFENSE
- Deployment at Moscow within ABM Treaty
  - Limited capability
  - Upgrade projected for 1987
- Endo- and exo-atmospheric interceptors
- Target acquisition, tracking, and hand-off radars
- Systems available for rapid, widespread deployments beyond ABM Treaty

DIRECTED ENERGY WEAPONS
- Vigorous R&D with possible BMD applications in 1990s
- Program identified for laser BMD

TACTICAL WARNING AND ATTACK ASSESSMENT
- Over-the-horizon radars
- Phased-array radars
- Launch detection satellites

As of 1 January 1986

FIGURE III-7

The current space-based surveillance system relies on sensors aboard satellites. These satellites cover Soviet SLBM and ICBM launch areas. Survivability is being improved by various programs.

The current ground-based radars, for example, PAVE PAWS, Perimeter Acquisition Radar Attack Characterization System (PARCS), Ballistic Missile Early Warning System (BMEWS), and COBRA DANE confirm satellite warning of ICBM attacks from the north and SLBM attacks from normal Soviet submarine operating areas. The activation of two southern PAVE PAWS sites in the late 1980s will complete the radar coverage of likely SLBM approach routes.

PAVE PAWS RADAR

BMEWS currently employs equipment based on obsolescent technology that is increasingly difficult to maintain and support. BMEWS radars are being upgraded with a two-face phased-array system at Thule, Greenland, and a three-face phased-array system at Fylingdales, United Kingdom. These upgrades will improve range resolution, provide a greater ability to count incoming vehicles, and ensure more accurate impact prediction.

These improvements will provide a warning capability against the projected Soviet threat. In response to the increasingly time-stressed nature of the aerospace threat, the US must be capable of evaluating integrated information from strategic intelligence sources, and from ballistic missile, atmospheric, and space warning sensors to provide a single assessment and notification of imminent or actual attack on the United States.

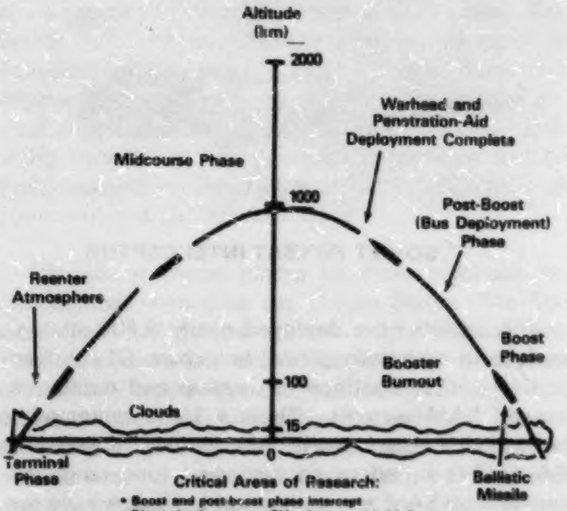
Other systems contribute unique capabilities to monitor Soviet nuclear forces. Strategic airborne reconnaissance aircraft carry a variety of sensors to detect ground and air activities. For ocean surveillance, the coordinated efforts of P-3s, submarines, and surface ships with towed sensor arrays are key to tracking ballistic missile submarines.

Under the SDI, the United States is conducting an intensive research effort focused on advanced defensive technologies that may lead to systems capable of defeating ballistic missiles. A number of concepts, involving a wide range of technologies, are being examined. The effort does not represent a departure from the fundamental US support for deterrence.

No single concept or technology for the SDI has been identified as most appropriate. Initial research indicates that it may be feasible to increase stability through employment of a multilayered defense capable of engaging enemy missiles and reentry vehicles in all stages of flight (see Figure III-8). The SDI effort is also examining technologies with potential against short-range ballistic missiles, which could extend protection against nuclear, chemical, biological, and conventional attack to the Allies and deployed US forces.

The SDI is addressing the protection of both civilian and military assets. The research seeks to exploit inevitable technological evolution and is a prudent

Phases of a Typical Ballistic Missile



Critical Areas of Research:
- Boost and post-boost phase intercept
- Discrimination among RVs, decoys, and debris
- Survivability
- Interceptors
- Battle management

As of 1 January 1986 ***FIGURE III-8***

response to active Soviet research and development activities in ballistic missile defense.

The Soviet Union has already deployed a BMD system which is permitted under the 1972 ABM Treaty. The Soviets are also engaged in research and development of a rapidly deployable ABM system that raises concerns about their potential ability to deploy a nationwide ABM system within the next decade in violation of the ABM Treaty. SDI research of the United States will be consistent with terms of the ABM Treaty. The program also provides a prudent hedge against a possible Soviet breakout from the ABM Treaty, holds the promise of a better way to deter aggression, strengthens stability, and increases US and allied security.

Air Defense

The Soviets emphasize air defense and continue to upgrade their capabilities. The Soviets have 4,000 fighter/fighter-interceptors capable of air-to-air combat in defense of the Soviet Union of which some 1,200 are dedicated to a strategic defense mission. Deployment of the FOXHOUND A, the first Soviet fighter-interceptor to have full lookdown-shootdown and multiple-target engagement capabilities, continues. Operational deployment of the FLANKER B, the Soviets' newest lookdown-shootdown capable fighter-interceptor is expected soon, while deployment of the new FULCRUM A is gaining momentum.

SOVIET FOXBAT INTERCEPTOR

The Soviets have deployed nearly 9,400 strategic surface-to-air missile (SAM) launchers. Of equal importance, they continue to develop and deploy improved SAM systems. The SA-10 is estimated to be effective against small, low-altitude targets. The SA-X-12 is a modern, sophisticated, long-range mobile tactical SAM and antitactical ballistic missile system that could be deployed in the near future. The SA-5, SA-10, and SA-X-12 may have the potential to intercept some types of US ballistic missiles.

For surveillance of their airspace, the Soviets have deployed early-warning aircraft and over 10,000 search and track radars at over 1,200 sites. The Soviets are also producing the MAINSTAY airborne warning and control aircraft. Forward air defense capabilities will be significantly improved with deployment of MAINSTAY, especially when it operates with lookdown-shootdown capable aircraft such as the FOXHOUND and FLANKER. Soviet air defenses will continue to pose a major challenge for the US bomber force.

SOVIET AWACS

The United States and Canada share continental air defense responsibilities under the provisions of the North American Air Defense Agreement. Both nations assign forces to the North American Aerospace Defense Command (NORAD).

Current US air defenses are composed of surveillance radars, Airborne Warning and Control System (AWACS) aircraft, interceptor aircraft, and an integrated command and control system. Deployment of North Warning System (NWS) and over-the-horizon backscatter (OTH-B) radars will improve the detection capability against airbreathing threats. The effectiveness of OTH-B in detecting cruise missiles is promising. OTH-B radars can provide surveillance of potential attack routes from 500 to 1,800 miles. AWACS patrols can provide some coverage until the present Distant Early Warning (DEW) Line radars are replaced by the NWS and OTH-B radars. The NWS searching north and OTH-B radars searching east, west, and south will provide a capability for tactical warning at ranges that allow increased response time against aircraft and cruise missiles. In the event of attack, survivable AWACS aircraft can extend this surveillance capability through the trans- and postattack phases.

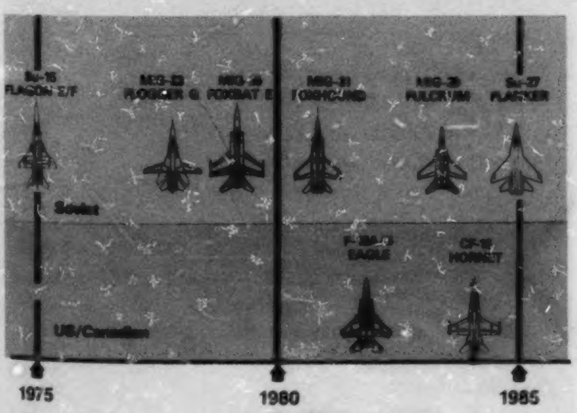
Peacetime surveillance of continental airspace has been strengthened by the integration of selected civilian and military radar sites into the Regional Operations Control Centers that comprise the Joint Surveillance System. The system would provide regional air defense command and control during the initial stages of an attack.

Improvements in surveillance capability have been accompanied by interceptor aircraft upgrades. US F-106 and eventually F-4 aircraft are being replaced by more capable F-15s and in the future an air defense competition aircraft. Additionally, Canada's CF-101 interceptors have been replaced with CF-18 aircraft. The addition of the advanced medium-range air-to-air missile (AMRAAM) will permit many of these modern aircraft to possess a lookdown-shootdown capability to improve the air defense of North America. This capability will become increasingly important as the Soviets expand their cruise missile inventory. Figure III-9 illustrates the modernization of the US and USSR interceptor aircraft.

Space Defense

The Soviet Union has the world's only operational antisatellite (ASAT) system. The Soviets' ASAT is a weapon capable of attacking satellites in near-earth orbits. Additionally, GALOSH antiballistic missile interceptors have an inherent ASAT capability when used in a direct ascent mode. Vigorous Soviet R&D efforts in ground-based, airborne, and space-based directed-energy technology have potential ASAT applications.

Air Defense Interceptor Aircraft Deployments



As of 1 January 1986 *FIGURE III–9*

The United States is continuing to develop ASAT weapon systems to deter Soviet ASAT attacks of US satellites. Should deterrence fail, US ASAT systems must be able to reduce the effectiveness of Soviet attacks. The initial US capability has been demonstrated and is expected to be provided by the Air-Launched Miniature Vehicle (ALMV) a small missile launched from F-15 aircraft.

F-15 IN ASAT CONFIGURATION

Other Defense Measures

Both the United States and the Soviet Union have given missile silos and essential command and control systems their first priority in programs to harden strategic systems against overpressure from a nuclear detonation. The results of hardening are evident in the characteristics of strategic targets in each nation. The Soviet Union has significantly improved its strategic capability by dispersing critical facilities, hardening structures, and developing mobile systems. For the most part, the United States has not extended hardening to economic or government facilities beyond those actually involved in strategic intelligence and command and control operations.

The Soviet Union places far more emphasis on civil defense than does the United States. The Soviets view civil defense as an integral part of their strategic posture and invest heavily in the protection of their key leadership, essential work force, critical economic facilities, and general population. Soviet programs include construction of protective relocation facilities, organizational planning, training, and the commitment of manpower to the civil defense structure. US efforts do not provide for adequate support of a dispersed population or protection of war-supporting industry and its labor force.

Strategic Defense Summary Assessment

Figure III-10 illustrates the key features of the US and Soviet strategic defense force postures.

NONSTRATEGIC NUCLEAR FORCES

The United States must possess a broad spectrum of nuclear force options to deter aggression and defend its interests should deterrence fail. Nonstrategic nuclear forces (NSNF) provide an escalatory response below the level of strategic nuclear forces. NSNF consist of land-based systems for battlefield support and intermediate-range strikes, and sea-based systems for land strike and antiship, antisubmarine, and antiair warfare.

NSNF support conventional forces by providing a major deterrent to conventional, theater nuclear, and chemical attack, and are essential to a strategy of flexible response. NSNF provide a range of employment options that create uncertainty for potential aggressors concerning US and Allied response. Such forces could deny the enemy sanctuary to mass forces behind the immediate battle zone and break up the momentum of an offensive.

Although US NSNF are available for use worldwide, the majority of these forces are located in Europe. The primary NSNF threat to US and allied forces is also located in Europe, although SS-20 missiles based in eastern and central USSR and Soviet sea-based nuclear forces pose a growing threat to Asia. The NSNF are structured differently for their missions in Europe and Asia. NATO NSNF are deployed in a relatively confined geographical area, and are primarily land-based. US NSNF in the Pacific are geographically dispersed and more dependent on sea-based capabilities. The following assessments of NSNF are provided in a NATO-Warsaw Pact context.

Intermediate-Range Nuclear Forces

Intermediate-range nuclear forces (INF) include land-based missiles and aircraft capable of striking targets beyond the general area of the battlefield, but not capable of intercontinental range.

Longer Range Intermediate-Range Nuclear Forces

Longer range intermediate-range nuclear force (LRINF) missiles have ranges between 1,800 km and

Strategic Defense Summery

US

BALLISTIC MISSILE DEFENSE
- Dismantled
- 1983 Strategic Defense Initiative (Research)

AIR DEFENSE
- SAMs phased out in 1975
- 300 Interceptors
- 100 Radars

SPACE DEFENSE
- Early interceptor dismantled
- F-15 launched ASAT in development

CIVIL DEFENSE
- Limited program

RELIANCE ON RETALIATORY CAPABILITY
- Effective tactical warning and attack assessment
- Survivable TRIAD

Soviet

BALLISTIC MISSILE DEFENSE
- Deployed around Moscow—within ABM Treaty
- Systems available for potential breakout

AIR DEFENSE
- 9,400 SAM launchers
- 1,200 Interceptors
- 10,000 Radars

SPACE DEFENSE
- Orbital ASAT operational
- Potential use of ABM as ASAT
- Potential ground-based lasers
- Potential electronic warfare threat

CIVIL DEFENSE
- Strong program

RELIANCE ON DAMAGE LIMITATION AND OFFENSIVE CAPABILITY
- Effective tactical warning and attack assessment
- Active defenses
- Passive defenses
- Survivable offensive capability

As of 1 January 1986

FIGURE III-

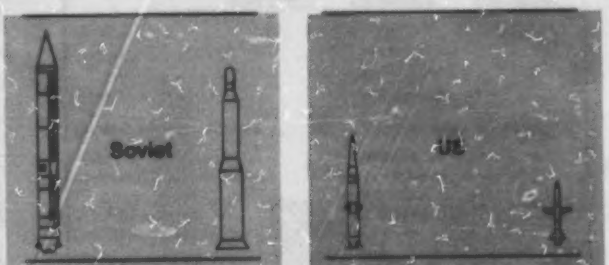
GLCM TRANSPORTER-ERECTOR-LAUNCHER (TEL)

5,500 km. In late 1983 NATO began implementing its 1979 decision to modernize LRINF with initial deployments of PERSHING II and GLCMs. These actions were undertaken because of Soviet deployments of SS-20 missiles and the unwillingness of the Soviets to agree to INF reductions after 2 years of negotiation. Additional GLCM missiles arrived in Belgium in March 1985 displaying NATO unity. NATO deployments are scheduled to continue through 1988 at which time there will be 108 PERSHING IIs and 464 GLCMs in Europe unless an arms control agreement reduces LRINF missiles to lower levels.

Full deployment of LRINF missiles will increase NATO's nuclear capability significantly and partially offset SS-20 deployments. Both the PERSHING II and GLCM systems have ranges exceeding those of other NATO land-based systems deployed in Europe and incorporate technologies which make them effective against critical targets. The PERSHING II missile provides an additional capability because it can strike time-urgent targets.

As shown in Figure III-11, the PERSHING II and GLCM do not compensate fully for deployed Soviet LRINF capabilities. Soviet SS-20 systems, with 3 independently targeted warheads per missile, already greatly outnumber the 572 warheads that will

Longer Range INF Missiles



	SS-4	*SS-20*	*PERSHING II*	*GLCM*
Warheads	1	3 MIRV	1	1
Range (km)	2,000	5,000	1,800	2,500
Operational flight time	Minutes	Minutes	Minutes	Hours
Operational mode	Fixed	Mobile	Mobile	Mobile
Global numbers deployed	112	441*	108	128
Year operational	1958	1977	1983	1983

* Includes 36 launchers currently unlocated

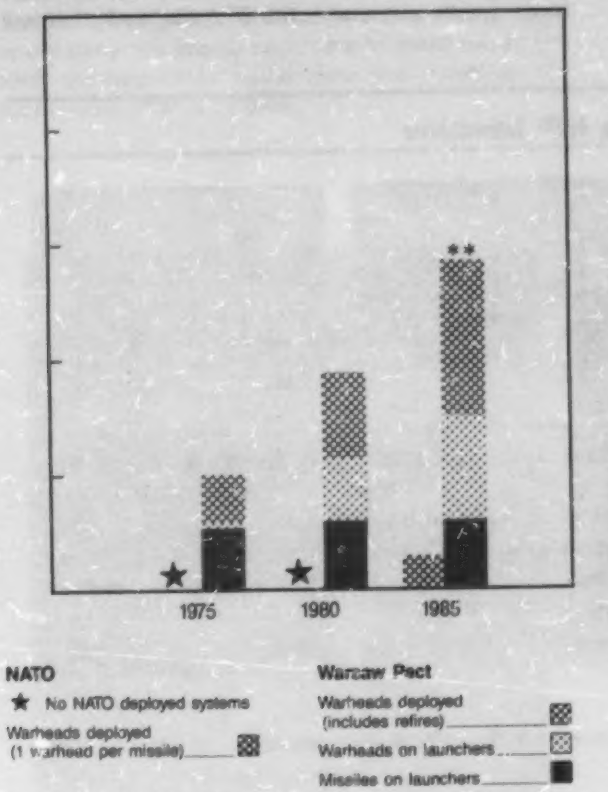
As of 1 January 1986

FIGURE III-11

be made available by NATO LRINF deployments (Figure III-12). The availability of SS-20 refires and older SS-4s further contribute to the imbalance. In addition, the SS-20 has a much greater range than any NATO LRINF system. As shown in Figure III-13, the SS-20 can cover the entire European theater, all of East Asia, and other vital areas. The SS-20 can reach most significant targets in Western Europe, even when deployed beyond the NATO LRINF range. In addition, we expect the Soviets to deploy the SSC-X-4 ground-launched cruise missile opposite NATO over the next several years. Figure III-14 compares NATO and Warsaw Pact INF capabilities.

NATO–Warsaw Pact Longer Range INF Missiles*

Worldwide



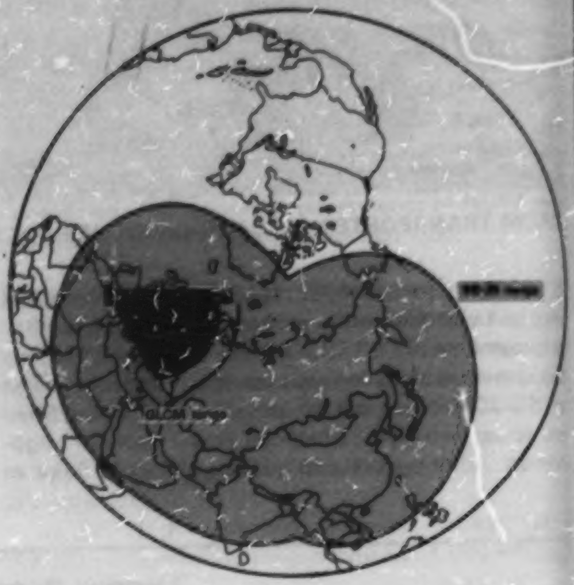
*Includes: US PERSHING II, GLCM and Soviet SS–4, SS–5, SS–20 SSC–X–4 in 1990 (expected IOC)

**SS–5 no longer active

***SS–4 no longer active

As of 1 January 1986 *FIGURE III–12*

PERSHING II and GLCM Coverage & SS–20 Coverage from Soviet Bases



As of 1 January 1986 *FIGURE III–1*

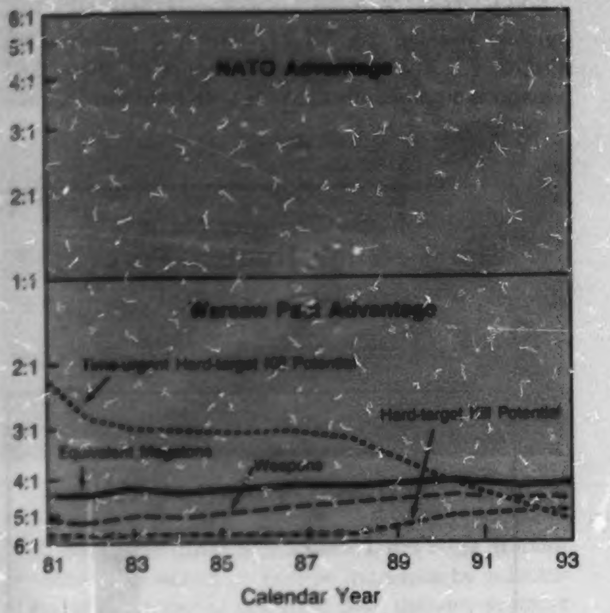
SOVIET SS-20

Shorter Range Intermediate-Range Nuclear Forces

Shorter range intermediate-range nuclear forces (SRINF) have ranges from beyond the immediate battlefield to 1,800 km. Withdrawal of US PERSHING IA missiles from Europe was completed in 1985 in conjunction with the deployment of the PERSHING II

Intermediate-Range Nuclear Forces* —Europe—

(Land-based Missiles and Dual-capable Aircraft)
Preattack Static Ratio Comparison
(Missiles on Launcher Only)



* Includes only those weapon systems with ranges greater than 300km and no refire missiles

As of 1 January 1986 **FIGURE III-14**

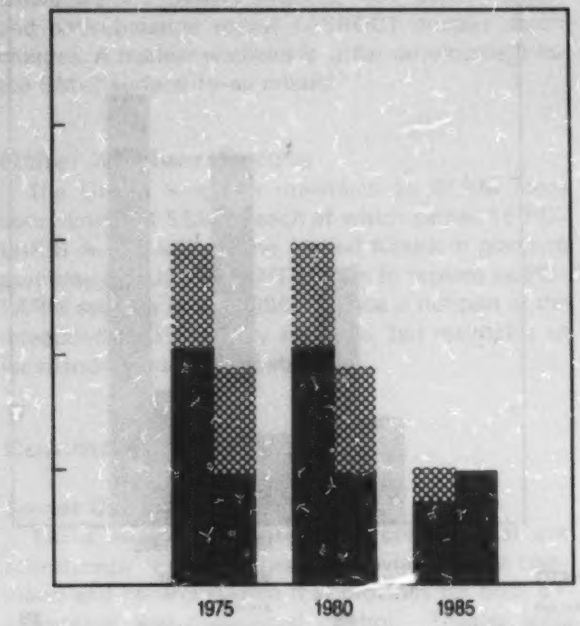
systems. With this withdrawal, the German PERSHING IA missiles are the only SRINF missiles remaining in the NATO inventory. This change is reflected in Figure III-15.

The Soviet modernization of SRINF systems continues. Deployment of the SS-23 missile, with its improved accuracy, has increased the number and capability of SRINF systems facing NATO. The number of SRINF missiles available to the Warsaw Pact is expected to grow considerably during the remainder of the decade.

SRINF missiles provide the Soviet Union with a significant capability. The forward deployment of SRINF systems will reduce the number of Soviet LRINF systems required to accomplish targeting objectives.

NATO-Warsaw Pact Shorter Range INF Missiles

Europe



NATO*		Warsaw Pact**	
Total warheads on missiles	▨	Total warheads on missiles	▨
Missiles on launchers (1 warhead per missile)	■	Missiles on launchers (1 warhead per missile)	■

*US PERSHING 1A
(withdrawal complete in 1985)
FRG PERSHING 1A

**Soviet SS-12/MOD 2, SS-23

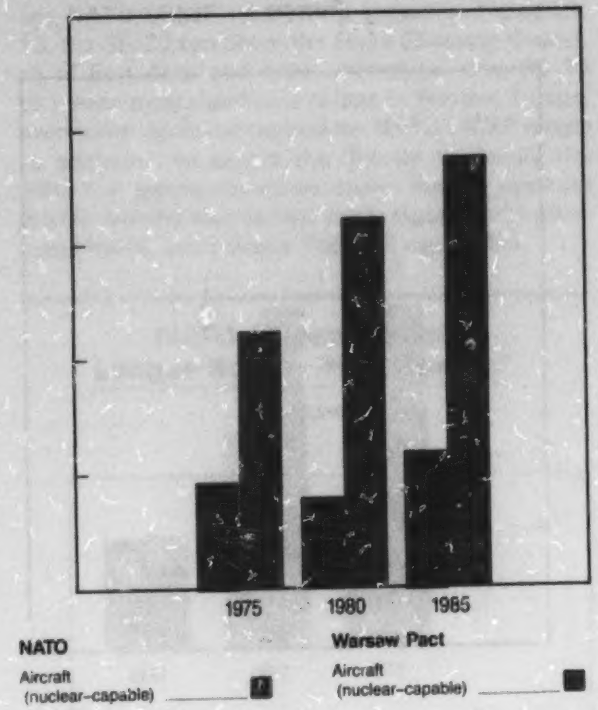
As of 1 January 1986 **FIGURE III-15**

Intermediate-Range Nuclear Forces Aircraft

INF aircraft are those land-based, nuclear-capable aircraft with less than intercontinental range. Dual-capable aircraft (DCA) make up the preponderance of the INF systems capable of delivering nuclear weapons beyond the immediate battlefield. Figure III-16 shows that both the Warsaw Pact and NATO rely heavily on these systems and the Warsaw Pact holds a significant numerical advantage. The F-111 and TORNADO are currently the only INF aircraft available to NATO which have the ability to penetrate enemy defenses at low altitude, day or night, in any weather. NATO will continue to make qualitative and quantitative improvements in its INF aircraft, such as the F-16 and TORNADO. The addition of the F-15E

NATO–Warsaw Pact INF Aircraft

Europe



As of 1 January 1986 *FIGURE III-16*

dual-role fighter to the inventory in the late 1980s will significantly improve NATO's all-weather capability.

Changes to these Soviet systems for the next few years involve the introduction of newer, more capable systems. As with NATO systems, most Warsaw Pact INF aircraft are limited to SRINF-equivalent ranges. Only the BACKFIRE, BLINDER, and BADGER bombers are capable of longer ranges.

NATO INF aircraft have both a nuclear and conventional role. Because of possible attrition during conventional operations and the fact that not all INF aircraft are committed to the nuclear role, the actual number of DCA available would depend on the nature and sequence of the aggressor's attack.

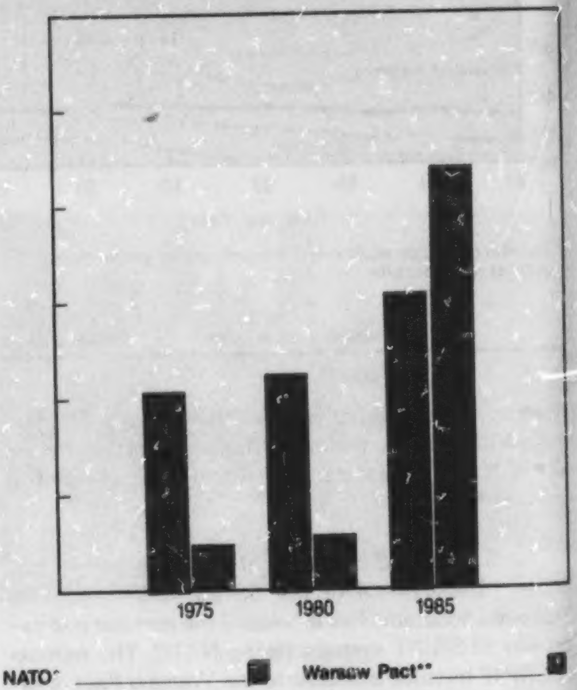
Short-Range Nuclear Forces

In the past, NATO had a clear advantage over the Warsaw Pact in the number of deployed short-range nuclear force (SNF) missiles, rockets, and artillery capable of striking targets only in the immediate battlefield area (Figure III-17). This advantage was primarily due to the large NATO inventory of dual-capable 155 millimeter (mm) howitzers. The Soviets have fielded nuclear-capable 152mm guns, 203mm guns, and 240mm self-propelled mortars; also, the older 152mm howitzer is considered to be nuclear-capable. These systems are complemented by a new nuclear missile, the SS-21, which is replacing the FROG 7. The Soviet deployments of these SNF weapons significantly increase their battlefield nuclear capability.

NATO–Warsaw Pact Short–Range Nuclear Forces

Europe

Launchers/Artillery Tubes Only



*US LANCE 8-inch, 155mm

Non-US NATO LANCE, HONEST JOHN, 8-inch 155mm

**Soviet SS-1, SS-21, FROG, 203mm, 240mm, 152mm systems

Non-Soviet Warsaw Pact SS-1, SS-21, FROG, 152mm

As of 1 January 1986 *FIGURE III-17*

The United States is also upgrading SNF systems. This modernization effort is required to replace aging, less reliable warheads and provide weapons that can more effectively counter the Warsaw Pact threat.

Modernized artillery-fired atomic projectiles (AFAP) use improved technology, resulting in significantly increased range, greater accuracy, higher reliability, improved responsiveness, enhanced security and command and control. Only the new 8-inch projectile (W79) is currently being built.

M-110 A2 8" HOWITZER

Compared to other SNF systems, the large number of 155mm howitzers in Europe increases by a factor of five the number of potential SNF delivery systems with which Soviet planners must contend. The W82 modernized 155mm AFAP is in the final stages of development. This weapon is designed to replace the W48, which is nearing the end of its useful life. The W82 offers a higher yield, increased range, and significantly improved military effectiveness. Until the W82 is fielded, a significant number of the less capable, first generation 155mm AFAPs will be required.

The LANCE, with its 115 km range, remains our longest range SNF system. The LANCE provides the ground commander an important capability to threaten the massed armored formations favored in Soviet doctrine.

Sea-Based Nuclear Forces

Sea-based nuclear forces consist of strike, antiship, air defense, and antisubmarine warfare (ASW) systems. Carrier-based aircraft (A-6, A-7, F/A-18) with nuclear bombs continue to provide the United States with a flexible nuclear land attack and antiship capability. The recently deployed TOMAHAWK TLAM/N significantly enhances the ability to strike land targets by providing increased range over carrier aircraft and allowing dispersal of nuclear strike assets over a large number of naval platforms.

Naval forces are equipped with TERRIER nuclear antiair warfare (AAW) missiles, B57 depth bombs, and antisubmarine rocket (ASROC) nuclear depth charges. A nuclear warhead is under development for the SM-2 surface-to-air missile.

Other Nuclear Forces

The United Kingdom maintains an SLBM force consisting of 4 SSBNs, each of which carries 16 POLARIS A-3 missiles. The United Kingdom plans to purchase the US TRIDENT system to replace its POLARIS systems in the 1990s. France is not part of the integrated NATO military structure, but maintains an independent nuclear capability.

Command and Control

Soviet Command and Control

For a conflict involving both conventional and nonstrategic nuclear forces, the Soviets have a command and control system that provides for both decentralized and centralized control. Theater force communications networks are integral to the national command communications systems. Soviet command and control capabilities are highly survivable, redundant, and flexible. In addition, the Soviets are maintaining vigorous research and development programs to upgrade such systems.

US Command and Control

US NSNF command and control systems must provide for the positive control and custody of nuclear weapons and the assured command and control of our theater nuclear forces through the full conflict spectrum. Our NSNF command and control systems have been improved in the areas of communications reliability and security. There are several communications upgrades under way to enhance their endurance and availability between now and the mid-1990s. These programs are designed to provide for continuity of operations and command and required communications connectivity after nuclear exchanges. In addition, new programs are being developed to provide for the flexible, accurate, and timely management, allocation, and execution of the force and its mission up to, during, and through the postattack period.

CHAPTER IV. THE MILITARY BALANCE: CONVENTIONAL FORCES

INTRODUCTION

World events have demonstrated that potential adversaries of the United States are willing to use military force in the pursuit of their objectives. Although US nuclear capabilities continue to provide deterrence at that level, the potential for conflict escalation with US and Soviet involvement remains high. In addition to nuclear forces, strong US conventional forces are essential to provide visible evidence of the US commitment to deter and, if necessary, counter military attacks against US and allied interests at all levels of conflict. Should deterrence fail, conventional forces would be employed to counter enemy attack, limit the scope of conflict if possible, and terminate hostilities on terms favorable to the United States and its allies. Additionally, conflict within the Third World nations is a reality today. The use of Soviet surrogates and the proximity of existing insurgencies to areas of vital US interests present an additional challenge to equipping and training conventional forces. Modern, well-balanced, and mobile conventional forces increase the options available to the National Command Authorities during such crises.

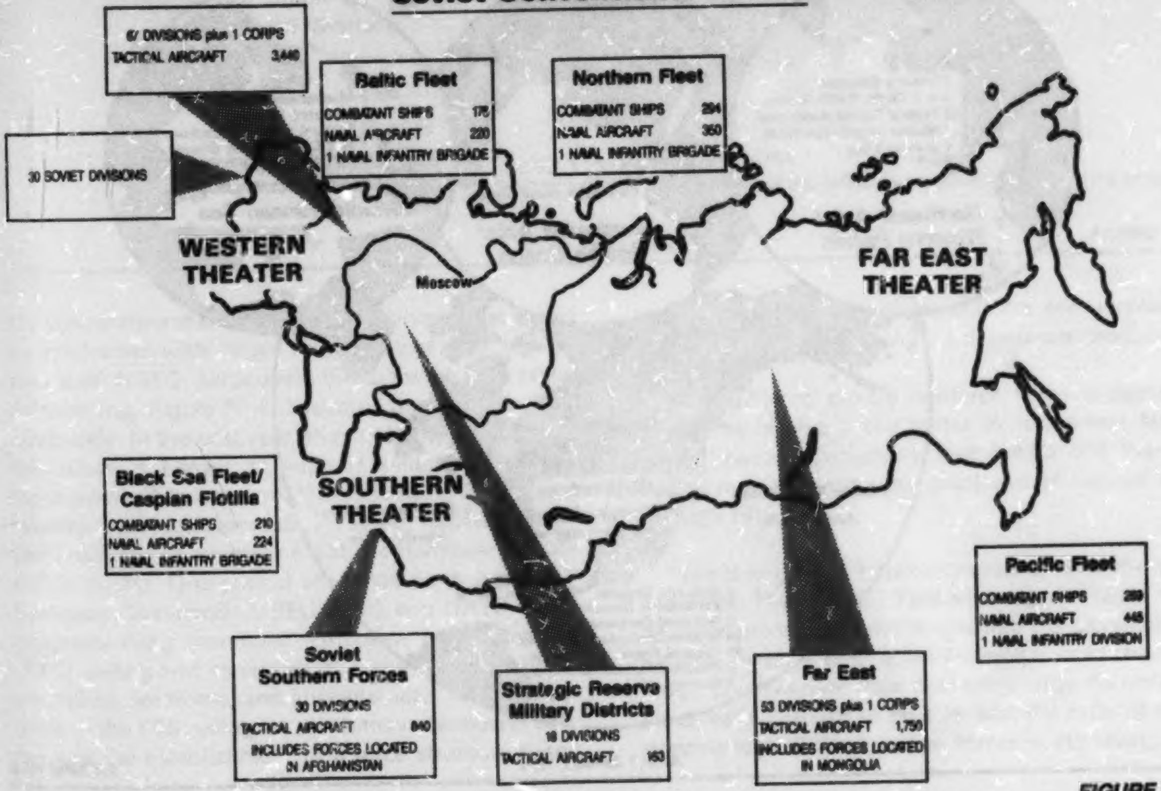
This chapter provides an overview of US conventional forces, assesses the global and selected regional military balances, highlights conventional force programs essential to implementation of US military strategy, discusses considerations for employing and supporting the forces, and reviews improvements in Service interoperability, planning and programming, force development, doctrine, and joint warfighting concepts.

GLOBAL OVERVIEW

Soviet Posture

Soviet forces deployed in Eastern Europe, together with other Warsaw Pact forces, constitute the major military threat to the Western allies. Major air, land, and naval forces also face Southwest Asia, China, and the Northwest Pacific (Figure IV-1). The Sovi-

Soviet Conventional Forces


67 DIVISIONS plus 1 CORPS
TACTICAL AIRCRAFT 3,440
30 SOVIET DIVISIONS
Baltic Fleet
COMBATANT SHIPS 175
NAVAL AIRCRAFT 220
1 NAVAL INFANTRY BRIGADE
Northern Fleet
COMBATANT SHIPS 294
NAVAL AIRCRAFT 350
1 NAVAL INFANTRY BRIGADE
WESTERN THEATER
Moscow
FAR EAST THEATER
Black Sea Fleet/ Caspian Flotilla
COMBATANT SHIPS 210
NAVAL AIRCRAFT 224
1 NAVAL INFANTRY BRIGADE
SOUTHERN THEATER
Soviet Southern Forces
30 DIVISIONS
TACTICAL AIRCRAFT 840
INCLUDES FORCES LOCATED IN AFGHANISTAN
Strategic Reserve Military Districts
18 DIVISIONS
TACTICAL AIRCRAFT 163
Far East
53 DIVISIONS plus 1 CORPS
TACTICAL AIRCRAFT 1,750
INCLUDES FORCES LOCATED IN MONGOLIA
Pacific Fleet
COMBATANT SHIPS 289
NAVAL AIRCRAFT 445
1 NAVAL INFANTRY DIVISION

As of 1 January 1986

FIGURE IV-1

ets maintain a significant military presence in Africa, Southeast Asia, and Cuba, in addition to a substantial fighting force in Afghanistan. Further, they provide security assistance on an extensive scale and use surrogate forces to project their military power.

US Posture

The effectiveness of the US strategy depends not only on a system of forward-deployed forces but also on close cooperation with regional allies. In addition to their own military forces, these allies may also provide basing and staging facilities, overflight rights, ashore pre-positioning sites, and host-nation (HNS) support to assist US forces. Figure IV-2 shows the current deployment of major US ground, air, and naval forces. The majority of the remaining US Active Component and virtually all Reserve Component forces are located in the CONUS. These latter forces provide the flexibility to shift forces as required by various contingencies or world developments.

REGIONAL BALANCES

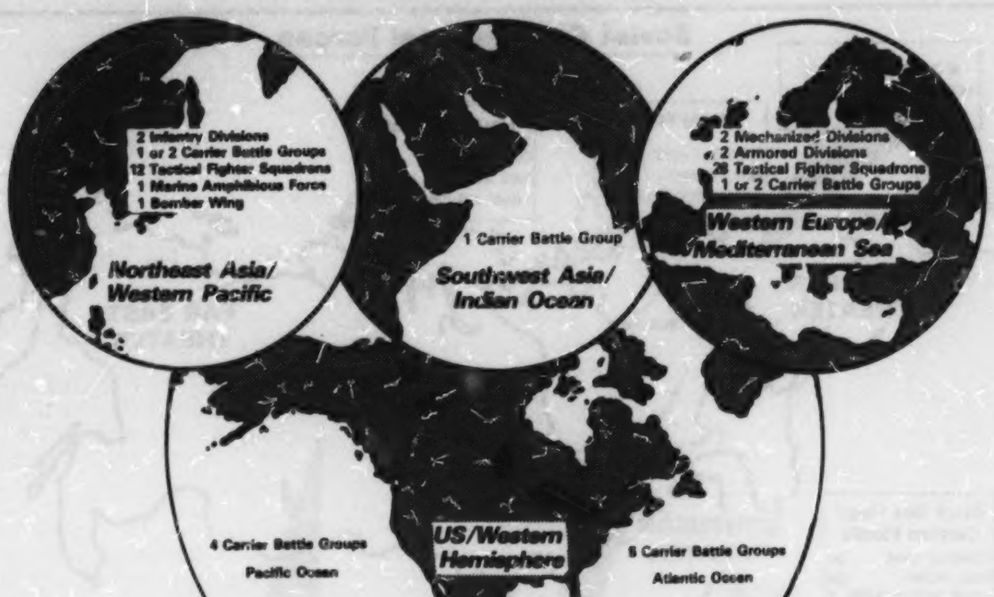
NATO and Western Europe

Warsaw Pact conventional forces are being modernized at a pace that threatens to overcome NATO's longstanding advantages in quality. The United States and its NATO Allies have made significant improvements in their conventional capabilities, but strong and sustained efforts are still required to meet Alliance force goals.

The Balance in Europe

The Warsaw Pact's military strength is far in excess of that required to defend its territory. The Warsaw Pact's conventional forces are organized, equipped, and trained to conduct offensive operations, and its doctrine and exercises continue to emphasize surprise and large-scale penetration of NATO territory. The major forces facing NATO are depicted in Figure IV-3, with arrows showing where they would proba-

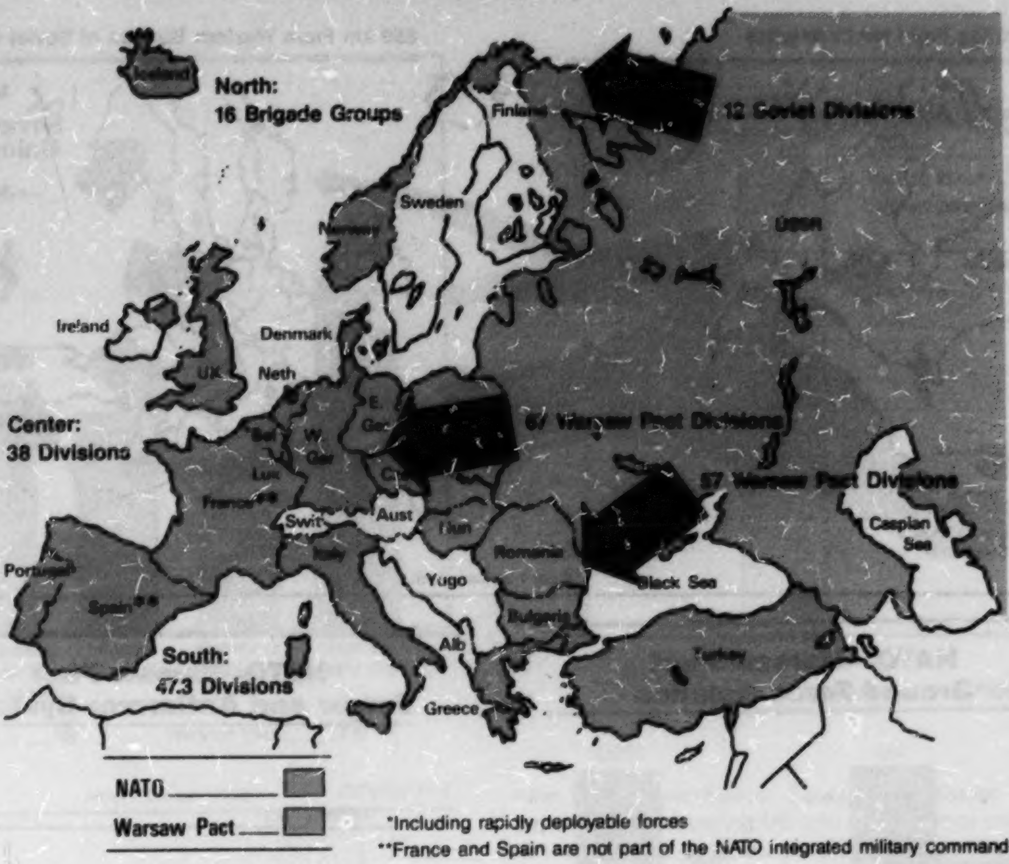
US Conventional Forces


2 Infantry Divisions
1 or 2 Carrier Battle Groups
12 Tactical Fighter Squadrons
1 Marine Amphibious Force
1 Bomber Wing
Northeast Asia/
Western Pacific
1 Carrier Battle Group
Southwest Asia/
Indian Ocean
2 Mechanized Divisions
2 Armored Divisions
28 Tactical Fighter Squadrons
1 or 2 Carrier Battle Groups
Western Europe/
Mediterranean Sea
4 Carrier Battle Groups
Pacific Ocean
US/Western
Hemisphere
6 Carrier Battle Groups
Atlantic Ocean
1 Airborne Division
1 Air Assault Division
4 Armored Divisions
15 Mechanized/Infantry Divisions
90 Tactical Fighter Squadrons
2 Marine Amphibious Forces
5 Bomber Wings

As of 1 January 1986

FIGURE IV-2

Western Europe, NATO, and the Warsaw Pact*


Iceland
North:
16 Brigade Groups
Finland
12 Soviet Divisions
Sweden
Norway
USSR
Ireland
UK
Denmark
Neth
Center:
38 Divisions
E. Ger
67 Warsaw Pact Divisions
Bel
W. Ger
Lux
France**
Cz
57 Warsaw Pact Divisions
Switz
Aust
Hun
Caspian Sea
Portugal
Italy
Romania
Yugo
Black Sea
Spain**
Bulgaria
South:
47.3 Divisions
Alb
Turkey
Greece
NATO ▨
Warsaw Pact ▨

*Including rapidly deployable forces

**France and Spain are not part of the NATO integrated military command structure

As of 1 January 1986

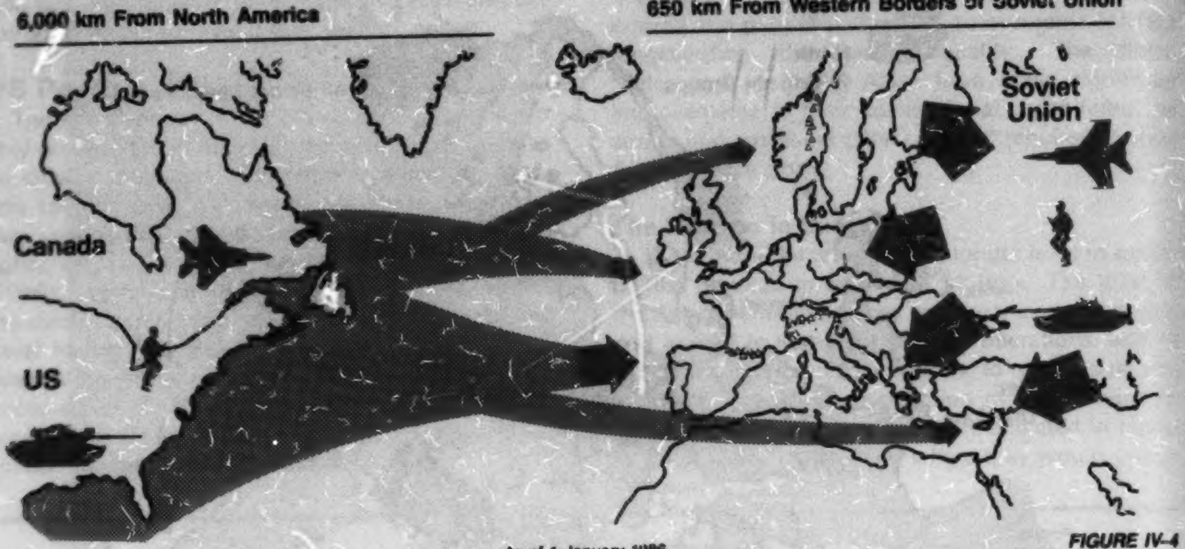
FIGURE IV-3

bly concentrate their attacks. The Warsaw Pact could be reinforced with larger numbers and in a shorter time than NATO, particularly if there were little tactical warning. Figure IV-4 illustrates this Warsaw Pact advantage. In the past year, the capability of US combat forces in Europe to support military operations has continued to improve. Corresponding Soviet and Warsaw Pact improvements, however, require continued increases to maintain a viable deterrence posture within NATO. One critical challenge confronting US European Command (USEUCOM) and NATO is the congressionally mandated European troop strength (ETS) ceiling and its impact on force structure, modernization, readiness, and sustainability. The abolishment of the ETS ceiling as an arbitrary manpower ceiling and the establishment of a force structure based upon geostrategic principles and the ever-increasing threat would enhance NATO's deterrence capabilities.

The ability to rapidly reinforce forward-deployed US forces is also a key factor in supporting NATO commitments. Comparisons of NATO and Warsaw Pact forces in Europe are displayed in Figures IV-5 through IV-8.

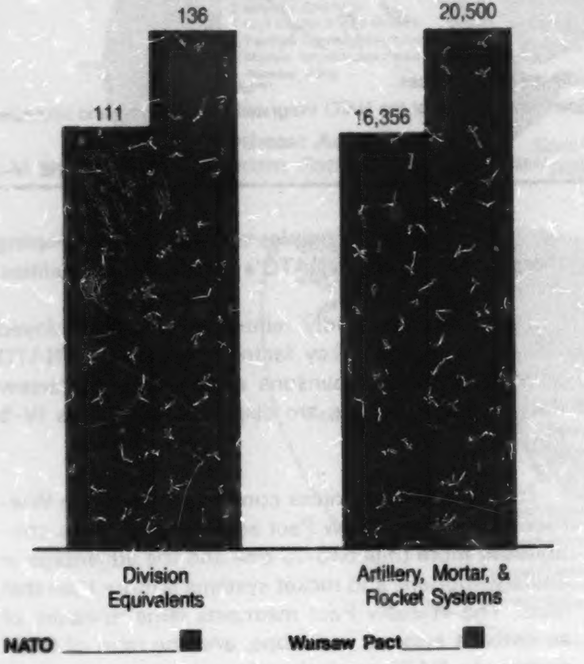
Trends in ground forces continue to favor the Warsaw Pact. The Warsaw Pact advantage in tanks continues at more than two-to-one and the advantage in artillery, mortars, and rocket systems is more than that ratio. The Warsaw Pact maintains large numbers of air defense systems in Europe, and the ratio of these systems to NATO tactical air forces is increasing.

NATO–Warsaw Pact Reinforcement


6,000 km From North America
650 km From Western Borders of Soviet Union
Canada
US
Soviet Union

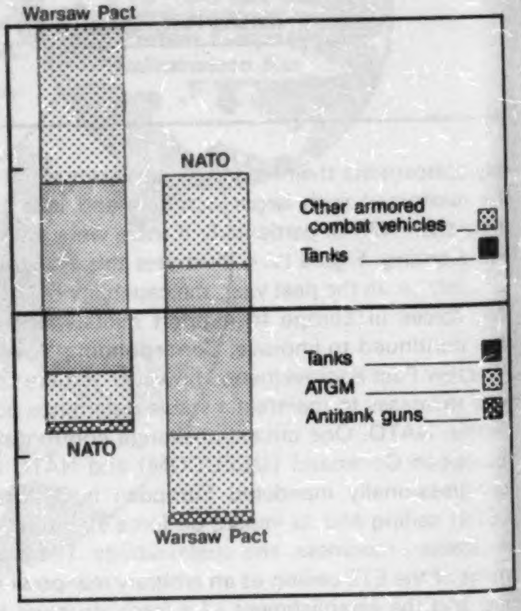
As of 1 January 1986 *FIGURE IV-4*

NATO—Warsaw Pact Ground Force Balance



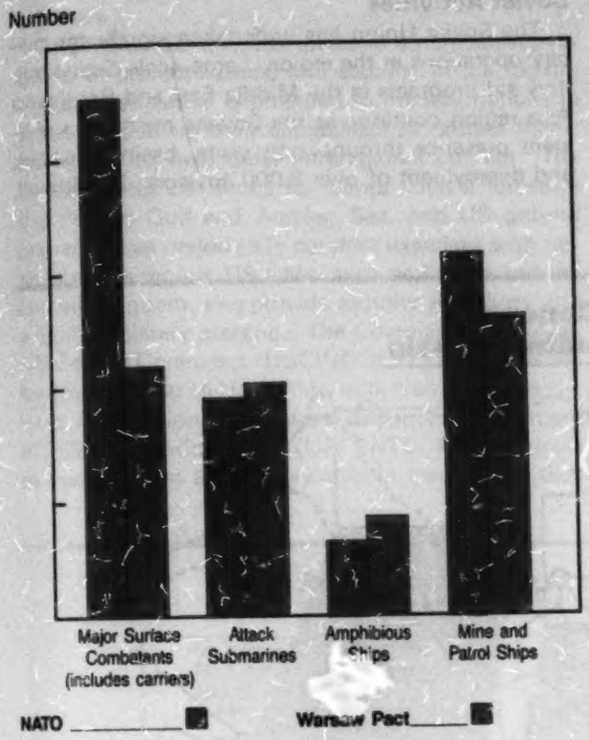
As of 1 January 1986 *FIGURE IV-5*

NATO–Warsaw Pact Armor and Antiarmor Systems



As of 1 January 1986 *FIGURE IV-6*

NATO—Warsaw Pact Naval Force Balance

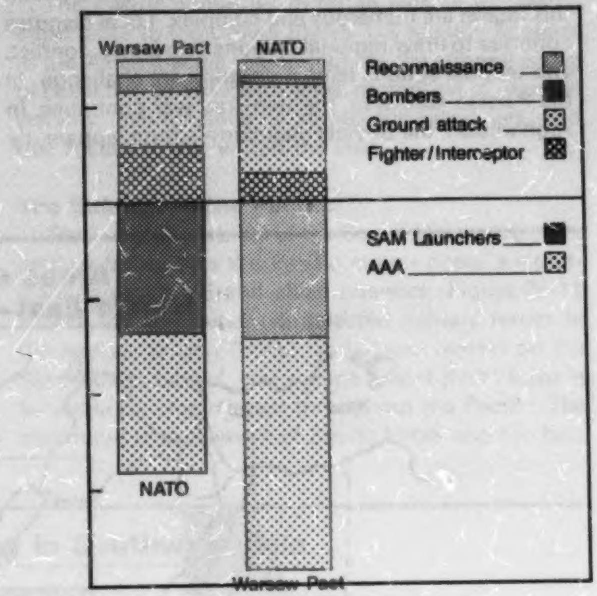


As of 1 January 1986 *FIGURE IV-7*

NATO continues to have an advantage over the Warsaw Pact in numbers of tactical air-to-ground systems, but still faces a significant numerical disadvantage in air-to-air fighters. The qualitative advantage of NATO's tactical air weapon systems helps offset imbalances in total numbers of aircraft. However, aircraft survivability remains a major NATO concern. The lack of a NATO identification system (NIS), which includes an improved identification friend or foe (IFF) capability, hampers the employment of these aircraft. The development of a common IFF system has recently been approved; however, until the equipment is fielded, air space control remains a difficult problem. Also, the Warsaw Pact has significantly more hardened shelters for its aircraft than does NATO. Actions continue within the Alliance to expedite the aircraft shelter program.

Modernization programs have allowed NATO naval forces to maintain an overall advantage over the Warsaw Pact; nevertheless, Soviet naval forces remain capable of threatening US and allied forces operating in the maritime approaches to Europe and of posing a threat to reinforcement and resupply shipping in the Atlantic Ocean.

NATO—Warsaw Pact Air and Air Defense Systems



As of 1 January 1986 *FIGURE IV-8*

The successful defense of the NATO Alliance remains highly sensitive to the time available for mobilization, early decisions by NATO political authorities, force allocations, en route survivability, and the adequacy of munitions and other consumables. Critical to the ability of US reinforcements to reach the European theater will be the availability and sustainability of such bases as Iceland and the Azores along with the ability to protect and defend the Atlantic, Caribbean, and Mediterranean sea lines of communication (SLOCs).

Middle East and Southwest Asia

The security of the Middle East and Southwest Asia is vital to the economic health of the free world and, consequently, to the security of the United States. Regional stability, Free World access to oil resources, and the limitation of Soviet influence remain important US objectives. Figure IV-9 identifies current areas of concern.

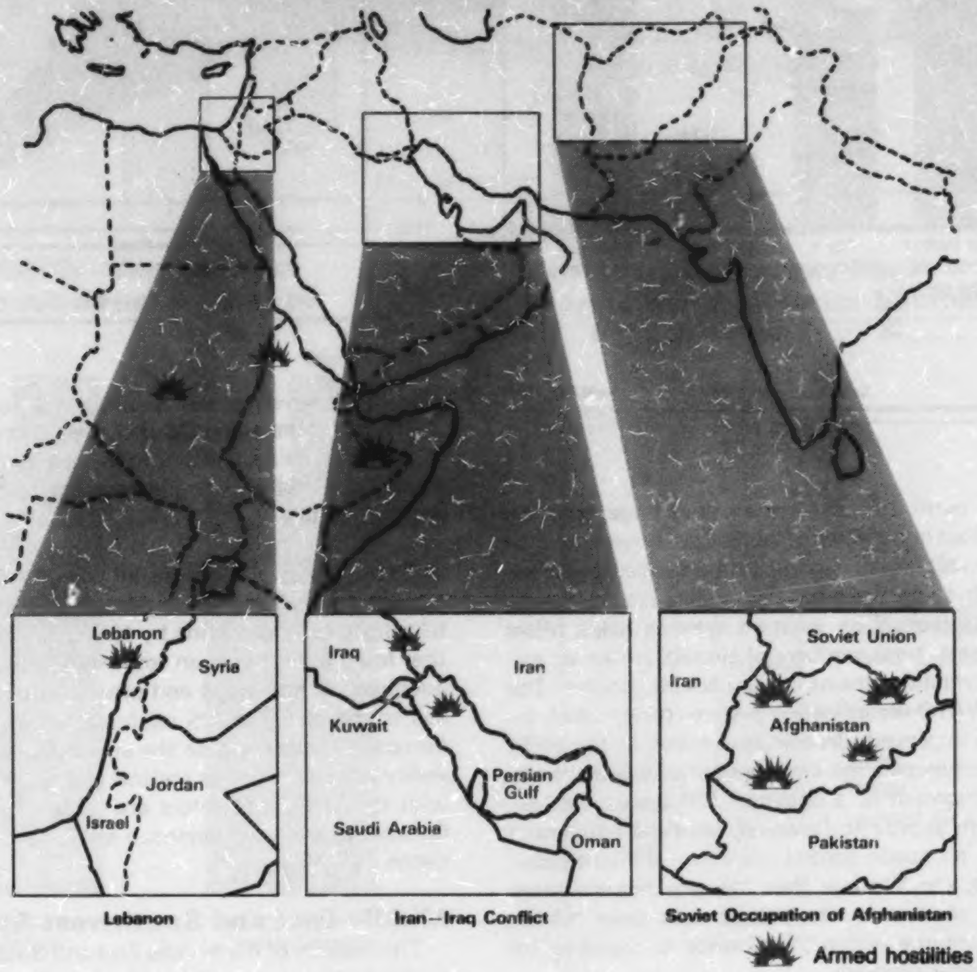
Regional Stability

Threats to stability and the free flow of oil within this region are numerous and complex. Local disputes continue to draw regional factions into armed conflict, and terrorist actions remain a significant challenge. In the Persian Gulf area, the Iran-Iraq war continues. In Afghanistan, the Soviets maintain a strong, apparently permanent, military presence with which they exert pressure on other nations in the region.

Soviet Activities

The Soviet Union has undertaken significant military operations in the region. Large-scale Soviet military aid programs in the Middle East and Southwest Asia region continue as the Soviets maintain a constant presence through port visits, basing facilities, and deployment of over 8,000 advisors. In addition,

Areas of Concern
Middle East–Southwest Asia


Lebanon
Syria
Jordan
Israel
Iraq
Iran
Kuwait
Persian Gulf
Saudi Arabia
Oman
Soviet Union
Iran
Afghanistan
Pakistan
Lebanon
Iran—Iraq Conflict
Soviet Occupation of Afghanistan
Armed hostilities

As of 1 January 1986

FIGURE IV-9

the Soviets deploy a naval squadron of 20-30 ships in the Indian Ocean on a permanent basis.

US Role

The United States participates in a number of programs to promote peace and stability in the region. Security assistance is provided to friendly nations in order to build up their capabilities to protect themselves and to help deter intraregional conflict. The United States continues to maintain naval forces in the Persian Gulf and Arabian Sea, and US ground and air forces periodically conduct exercises with nations of the region. US allies, such as France and the United Kingdom, also provide security assistance and a limited military presence. The Commander in Chief, US Central Command (USCINCCENT) is responsible for coordinating all US military activities in the Southwest Asia region. A forward headquarters element of US Central Command (USCENTCOM) continues to operate from a US Navy ship in the Persian Gulf area. Figure IV-10 shows selected forces present in the Middle East-Southwest Asia region.

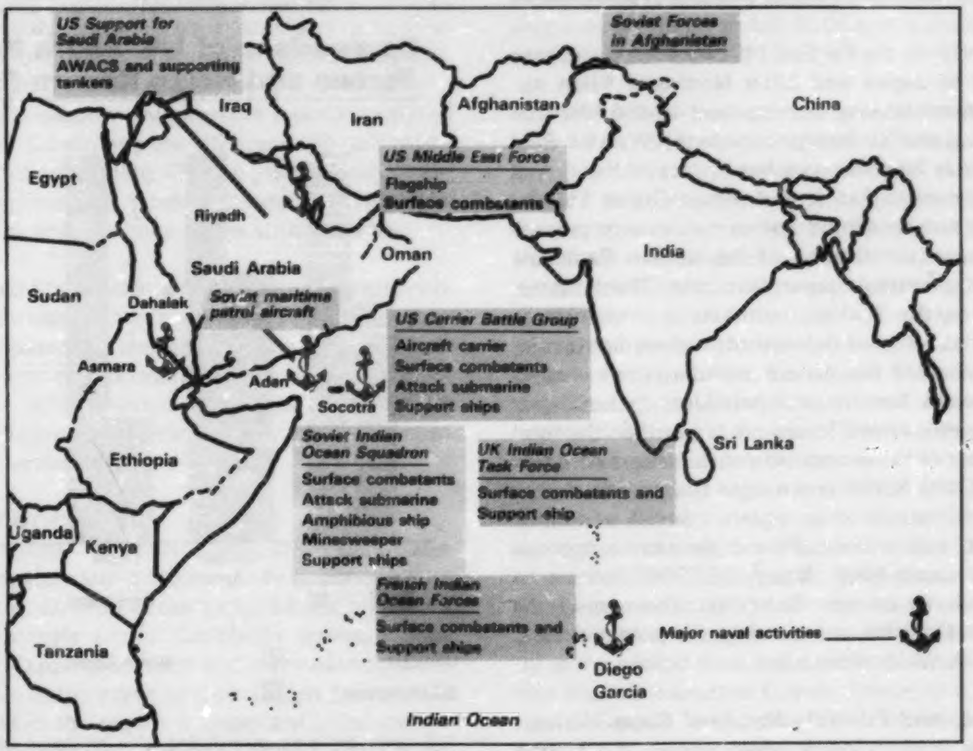
Pacific

The Pacific continues to be an area of increasing importance to the United States. US security interests in the Asian-Pacific region include the strengthening of collective defense with allies, promotion of regional stability, maintenance of strong economic ties, and free access to and within the area.

The Balance in the Pacific

The increasing ability of the Soviet Union to project military forces into the Pacific region poses a significant threat to US and allied interests. Figure IV-11 shows the disposition of selected military forces in the region. Strong Soviet land forces remain on the Sino-Soviet border, and a large Soviet naval force is available for employment throughout the Pacific. The continued improvement of Soviet forces and the bas-

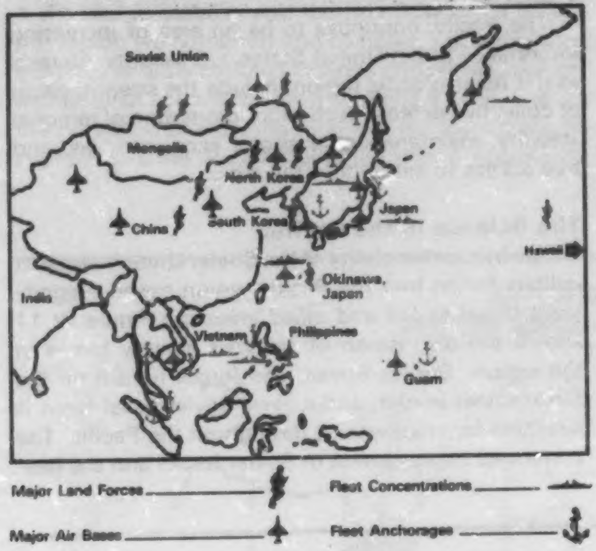
Allied–Soviet Presence in Southwest Asia


US Support for Saudi Arabia
AWACS and supporting tankers
Soviet Forces in Afghanistan
Iraq
Iran
Afghanistan
China
Egypt
Riyadh
US Middle East Force
Flagship
Surface combatants
Oman
India
Saudi Arabia
Sudan
Dahalak
Soviet maritime patrol aircraft
US Carrier Battle Group
Aircraft carrier
Surface combatants
Attack submarine
Support ships
Asmara
Aden
Socotra
Soviet Indian Ocean Squadron
Surface combatants
Attack submarine
Amphibious ship
Minesweeper
Support ships
UK Indian Ocean Task Force
Surface combatants and Support ship
Sri Lanka
Ethiopia
Uganda
Kenya
French Indian Ocean Forces
Surface combatants and Support ships
Major naval activities
Tanzania
Diego Garcia
Indian Ocean

As of 1 January 1986

FIGURE IV-10

Major Power Balance in East Asia and the Pacific



As of 1 January 1986 *FIGURE IV-11*

ing of missiles in the Far East Military District increase the threat to Japan and other Northeast Asian nations. The continuing development of the first true Soviet naval and air facility outside the Warsaw Pact at Cam Ranh Bay, Vietnam has improved the Soviet ability to interdict Pacific and Indian Ocean SLOCs. The North Korean Armed Forces continue to prepare for a military reunification of the Korean Peninsula should circumstances prove favorable. North Korea, supported by the Soviets, continues to modernize its armed forces. Recent delivery of modern fighter aircraft indicates the Soviets are providing the means to upgrade North Korean air capabilities. In Southeast Asia, Vietnam's armed forces are larger than the total armed forces of the Association of Southeast Asia Nations (ASEAN) States and remain the primary destabilizing influence in that region. Soviet economic and military support has allowed Vietnam to improve its military capabilities. Nearly 150,000 Vietnamese troops currently occupy Cambodia, threatening the security of Thailand and creating the potential for a conflict with wider dimensions.

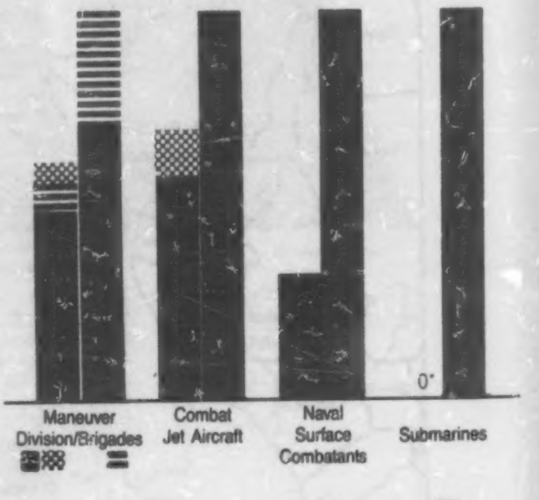
US, Allied, and Friendly Nations' Capabilities

There is a common interest among the United States and its Asian-Pacific allies and friends to promote peace and stability in the region. Because of the growing threat, close defense cooperation and collective security arrangements are essential. The United States has bilateral security agreements with Japan, the Republic of Korea (ROK), Thailand, and the Philippines and multilateral defense agreements with Australia and New Zealand.

The Australia, New Zealand, United States (ANZUS) organization continues to provide a framework for allied cooperation in the Western and Southern Pacific, current differences with the New Zealand Government notwithstanding.

The well-trained ROK forces are becoming increasingly self-sufficient in their capability to defend against aggression from the north, but South Korea is still dependent upon US support, both operationally and through pre-positioned war reserve materiel, to deter or counter an attack. The United States continues to deploy an Army division and combat air forces within the country, and US naval units in the Western Pacific can respond quickly if needed. Figure IV-12 compares the major forces on the Korean Peninsula. The ROK provides extensive support to

Comparison of US–South Korean Forces and North Korean Forces



*US carrier battle group, including SSN, on station within 96 hours

As of 1 January 1986 *FIGURE IV-12*

forward-based US units and the forces of the two countries are integrated into a single command structure, the Combined Forces Command. Combined US-ROK military training is conducted through day-to-day activities and annual exercises. Major exercises, such as TEAM SPIRIT, demonstrate allied cooperation and US reinforcement potential.

Japan remains a cornerstone of regional security by virtue of its strategic location, economic strength, and self-defense capability. The Japan Self-Defense Forces are well-equipped and well-trained, but they continue to lack the logistic support capability necessary for sustained combat operations. Japan's defense budgets are increasing in recognition of growing threats and acknowledgement of responsibility for conducting defense of its SLOCs out to 1,000nm. US bases in Japan play a vital role in complementing Japan's defenses and providing operational and logistic bases for US regional security efforts.

Building a stable relationship and cooperating in China's modernization is an important element of US strategy for the region. The PRC is gradually improving the defensive capabilities it considers critical to maintain its security, in conjunction with its national modernization. US-PRC military cooperation can enhance China's security and promote a stable regional environment. Continuing the US role in China's modernization and supporting China's gradual incorporation into regional and world interaction strengthens the credibility and presence of the United States.

The United States maintains a close and longstanding bilateral defense relationship with the Philippines and has strategically important air and naval bases there. Political and economic instability and active insurgencies will continue to impact adversely on Philippine security and pose complex challenges to the Philippine Armed Forces.

Latin America

Latin America, particularly the Caribbean Basin and Panama Canal, is a vital security concern of the United States. Over 50 percent of US trade and many strategic materials transit Caribbean waters. Substantial NATO reinforcements and materiel would use these SLOCs in the event of a conflict in Europe. US access to oil in the region is important in peacetime and would be vital in wartime. US and allied interests continue to be threatened by insurgencies in the region and growing Soviet and Cuban efforts to exploit instability there. The impact of illicit narcotics presents a significant threat to the United States and Latin American countries. The flow of illegal drugs has been clearly related to the illegal flow of weapons for at least one insurgent group supported by Cuba and Nicaragua, as well as support for terrorism.

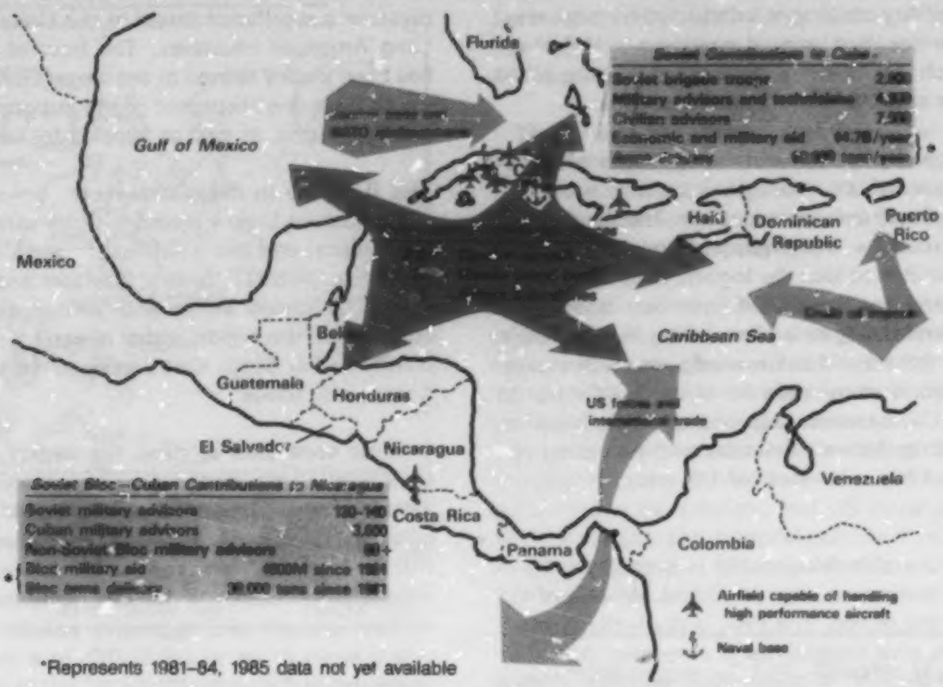
The Balance in Latin America

The Soviet Union provides Cuba extensive financial support and has a combat brigade, a signals intelligence (SIGINT) facility, advisors and technicians there. The Soviets also provide military aid to selected countries in the region, either directly or using client-states such as Cuba, East European nations, or North Korea as conduits.

Cuba continues to have the largest army in the Caribbean Basin, and is growing steadily in air and naval strength. Bolstered by Soviet aid, Cuba supports a number of insurgent movements by providing training, advisors and technicians, and substantial amounts of military equipment. Cuba's military strength and aggressive policies would provide a direct threat to US SLOCs in a global conflict as shown in Figure IV-13.

While Cuba is an important base for Soviet involvement in the Western Hemisphere, Nicaragua provides an opportunity to establish a center of Soviet influence in Central America that can threaten recent democratic trends, erode US influence in the region, and divert US resources from areas of greater strategic value to the Soviets. Nicaragua, following the pattern set 25 years ago in Cuba, is a regional sanctuary and prime source for spreading insurgency throughout Central America. With Soviet and Cuban assistance, the Nicaraguan armed forces have expanded over eightfold in the last 5 years. This inordinate growth in conventional capability has upset the balance of power, decreased regional stability, and provides a secure base for the support of subversive activities throughout the region (Figure IV-14). The consolidation of Sandinista power supports an expanding Soviet penetration into Latin America that could conceivably result in additional Soviet facilities in proximity to the United States. Also, it has become apparent that there is increased Cuban, Soviet, and North Korean influence in Guyana. The presence of Soviet surface action groups in the Caribbean along with

Soviet—Cuban Presence in Latin America


Florida
Gulf of Mexico
Mexico
Haiti
Dominican Republic
Puerto Rico
Caribbean Sea
Belize
Guatemala
Honduras
El Salvador
Nicaragua
Costa Rica
Panama
Colombia
Venezuela
US forces and international trade
Airfield capable of handling high performance aircraft
Naval base

Soviet Contributions to Cuba	
Soviet brigade troops	2,800
Military advisors and technicians	4,500
Civilian advisors	7,500
Economic and military aid	$4.7B/year*
Arms delivery	62,000 tons/year*

Soviet Bloc—Cuban Contributions to Nicaragua	
Soviet military advisors	130-140
Cuban military advisors	3,000
Non-Soviet Bloc military advisors	60+
Bloc military aid*	$500M since 1981
Bloc arms delivery*	38,000 tons since 1981

*Represents 1981–84, 1985 data not yet available

As of 1 January 1986 FIGURE IV-13

Conventional Forces in Central America

	Costa Rica	Nicaragua	Honduras
Personnel (Thousands)	8	119*	22**
Tanks	0	150	0
Armored Vehicles	0	200	99
Artillery (53mm & up)	0	146	24
Air Defense Artillery	0	200	30
Aircraft	10	67***	101

* Includes active duty forces, inactive militia and reserves as well as National Police

** Includes 5,000 police, 2,000 Air Force and 600–700 Navy

*** Includes transportation aircraft that perform militarily associated missions

As of 1 January 1986 FIGURE IV–14

continued deployments of Soviet long-range naval reconnaissance and antisubmarine warfare aircraft to Cuba and Angola remain a concern.

The United States and its Latin American allies have a common interest in promoting regional peace and stability. With the expanding Soviet, Cuban, and Nicaraguan roles in promoting low-intensity conflict, US and allied programs that focus on the enhancement and application of military capabilities are essential to promoting regional self-sufficiency. Training in areas such as civil defense, civic action, internal security, psychological operations, and combat engineering and medicine are counters to low-intensity threats. Military assistance has been effective in helping countries such as El Salvador cope with externally supported insurgencies.

In addition, exercises are conducted with friendly armed forces of the region to improve combined capabilities for defense and host-country self-sufficiency. The forward deployment of US forces in Panama and periodic force deployments emphasize the US commitment to the region.

MARITIME BALANCE

The ability to deploy and reinforce US forces in support of overseas interests and ensure the uninterrupted flow of strategic materials is an essential element of US military power. For these reasons, the US Navy maintains forces capable of seeking out and destroying enemy naval forces, maintaining local air and sea control, projecting forces ashore, supporting ground forces, and transporting forces and supplies. The maritime balance, therefore, must be viewed from a global perspective.

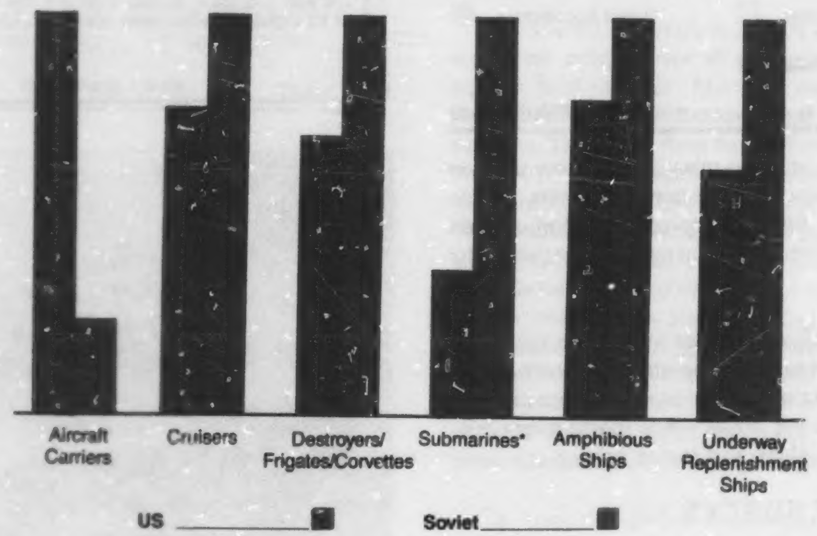
The Soviet Navy continues to evolve into a balanced force capable of performing sea control missions in waters contiguous to the USSR and sea denial operations. However, the open-ocean effectiveness of Soviet naval forces will continue to be affected by geographic constraints. The four Soviet fleets — Northern, Baltic, Black Sea, and Pacific — are widely separated and to varying degrees must transit choke points to reach open ocean.

Figures IV-15 to IV-18 compare selected US and Soviet naval trends. The Soviets are introducing nuclear-powered warships with greater firepower and endurance into their surface fleet. The introduction of a larger vertical/short takeoff and landing (VSTOL) carrier in the early 1990s will be a significant improvement over the KIEV-class and will enhance their capability for open-ocean operations.

Soviet cruisers and guided missile destroyers joining the fleet have advanced antiship, antisubmarine, and antiair weapon systems. The expansion and modernization of the general purpose submarine force include the addition of new classes of nuclear-powered attack submarines (SSNs) and guided missile submarines (SSGNs). Improved Soviet Naval Aviation (SNA) land-based bombers pose an increasing threat to US and allied surface ships.

US Navy surface forces still possess a significant advantage over the Soviet Navy in open-ocean antisurface warfare. US land-based air can also provide assistance in defending the SLOCs. P-3, B-52, and other aircraft, with the capability to deliver mines and

US–Soviet Principal Naval Forces

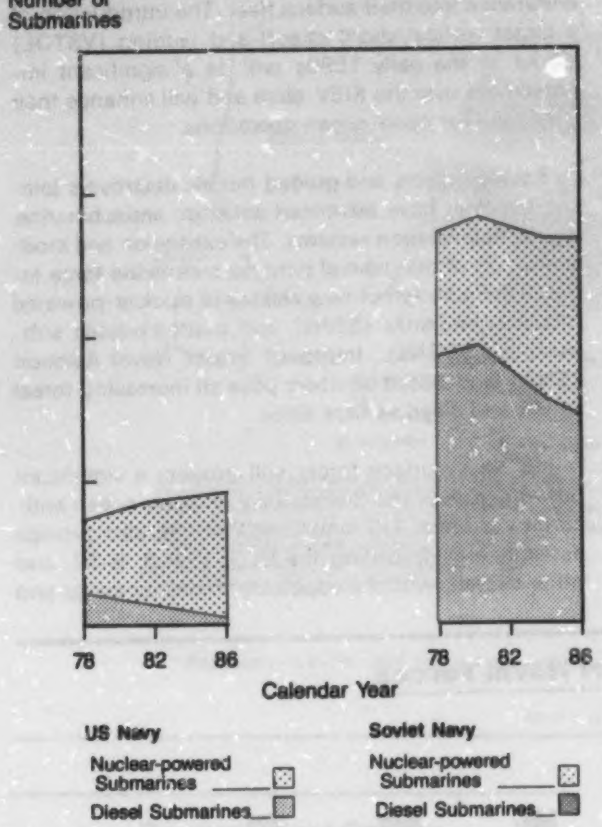


*Excluding ballistic missile units

As of 1 January 1986

FIGURE IV-15

General Purpose Submarines*



* Excluding ballistic missile units

As of 1 January 1986 *FIGURE IV-16*

launch HARPOON antiship missiles, can now provide added support against enemy surface targets. Land-based tankers and fighters operating in conjunction with AWACS provide additional capability against the SNA threat.

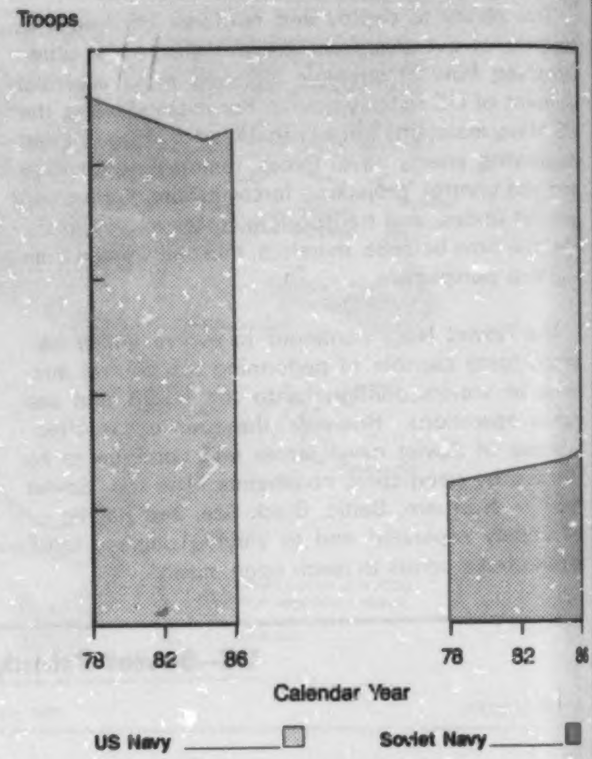
US naval capabilities will continue to outpace the Soviets. The US Navy will maintain its open-ocean superiority and continue to improve its capability to operate in high-threat areas while performing missions in support of allies and forces ashore.

COMPONENT FORCES

Ground Forces

For both deterrence and warfighting, US ground component forces provide an essential element of our

US and Soviet Amphibious Lift Capability*

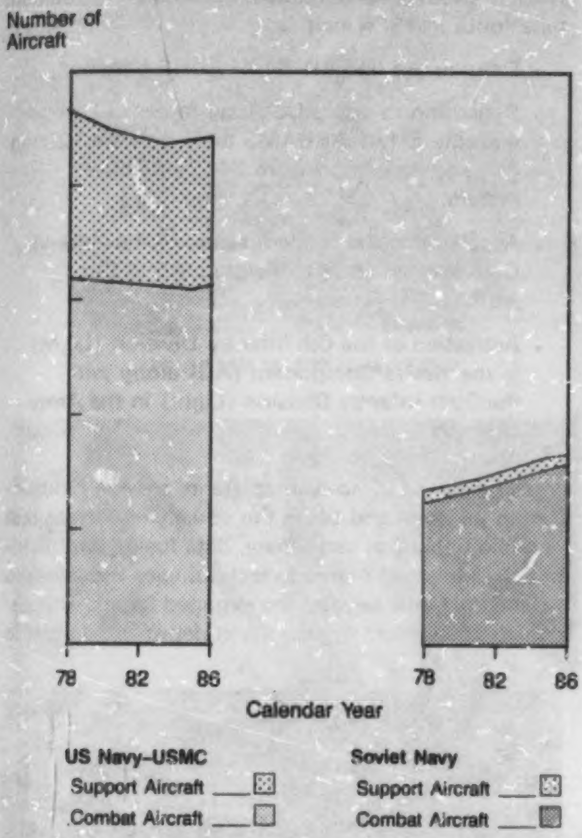


* Ships with a range in excess of 500nm (the Soviets have a significant lift capability within their coastal waters)

As of 1 January 1986 *FIGURE IV-17*

M-1 ABRAMS MAIN BATTLE TANK

US and Soviet Naval Aviation Aircraft



As of 1 January 1986 *FIGURE IV-18*

M-3 BRADLEY CAVALRY FIGHTING VEHICLE

national power. The Army has enhanced deterrence by fielding forces more capable of defending US interests across the entire spectrum of conflict. The spirit and readiness of Army organizations, combined with the improving quality of weapon systems, are visible symbols of the Army's increased warfighting capability. With a clear view of the Soviet Union's relentless force modernization, and anchored on a comprehensive operational doctrine, the Army is continuing to build a capability to exploit the national strengths of technological advantage and the quality of our magnificent young men and women.

MULTIPLE ROCKET LAUNCH SYSTEM

The Soviets continue to pursue an aggressive modernization program for all systems employed in support of land combat. Many of their weapon system production rates far exceed those of comparable US systems. Their tank fleet has acquired improved armor and fire control equipment, as well as more lethal ammunition. Other Soviet combat vehicles also evidence improvements in lethality and self-protection. The Soviet Union is also rapidly fielding new and more capable field artillery systems. To support ground maneuver, the Soviets are expanding their numbers and significantly improving the capabilities of their close support fixed wing and attack helicopters. In general, Soviet modernization initiatives seek to field a force capable of rapid execution of a massive combined arms offensive operation against NATO.

To meet the global challenges presented by Soviet and other potential adversaries, the Army has sought to make optimum use of constrained manpower and fiscal resources. Major elements of the Army modernization program are outlined in Figure IV-19. The Army is completing the redesign of its

UH-60 BLACKHAWK

Ground Force Systems Modernization

System	*Description*
ABRAMS Tank	Main battle tank
M60A3 Tank	Main battle tank product improvement program
BRADLEY Fighting Vehicles	Infantry and cavalry fighting vehicles
UH-60 BLACKHAWK	Utility helicopter
AH-64 APACHE	Advanced attack helicopter
PATRIOT	High and medium altitude surface-to-air missile
Multiple-Launch Rocket System	Self-propelled, tracked multiple-rocket launcher/loader
Army-TACMS	Conventional ballistic missile
Precision Guided Artillery Munitions and Submunitions	Family of PGM's
JSTARS	Airborne radar battlefield management and target location system
RPV	Unattended air vehicle sensor platform
Guard Rail	Signals intelligence collection
ASAS, TACIES, EPDS, MSE, PJM	C^{3}I modernization programs

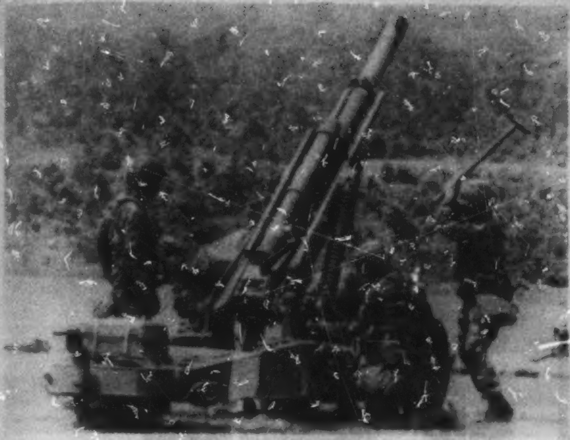
As of 1 January 1986 *FIGURE IV-19*

heavy, light, and special operations forces to succeed in contingency and low intensity conflicts, as well as to assure success in high-intensity combat against the Warsaw Pact. With the 1986 procurements, the Army has completed funding about one-half of the modernization of combat systems initiated in the 1970s (ABRAMS tank, BRADLEY Fighting Vehicle, APACHE helicopter, PATRIOT air defense system, BLACKHAWK helicopter, Multiple-Launch Rocket System, and related systems). Significant milestones in 1986 include:

- Fielding the first AH-64 APACHE battalion;
- Beginning to equip US Army forces in Europe with the M1A1 ABRAMS tank with the 120mm gun and an overpressure NBC protective system;
- Accelerating the modernization of the Reserve Components (RC) by fielding M60A3 or ABRAMS tank; and
- Activation of the 6th Infantry Division (Light) in the Active Component (AC) along with the 29th Infantry Division (Light) in the Army National Guard.

The Army must now complete its present modernization program and begin the equally important task of exploiting advanced sensor, data fusion and distribution, and smart munition technologies necessary to extend the battle beyond the engaged forces. This capability to conduct operations in depth is essential to

AH-64 APACHE — TANK KILLERS



US ARMY M-102 HOWITZER

US ARMY COMBAT SOLDIERS
IN WINTER CAMOUFLAGE

success in combat against a sophisticated and numerically superior foe who has the advantage of choosing the time, place, and manner of beginning hostilities. Moreover, the harnessing of advanced technologies can contribute to reducing the degree to which deterrence and defense rely on nuclear weapons.

Combat Air Forces

The United States is continuing to improve its combat air forces through the procurement of new systems, modification of existing capabilities and enhancing sustainability. The advantage currently held by the United States will narrow when the Soviets deliver new aircraft, the FLANKER (Su-27) and FULCRUM (MiG-29), to operational units in significant numbers. These aircraft will feature improvements in maneuverability, fire control, airframe construction, electronics, armament, and range-payload capability. The deployment of the Soviet MAINSTAY airborne warning and control aircraft and tanker aircraft for theater support will further increase the effectiveness of Soviet combat aircraft.

Figure IV-20 displays US and Soviet combat aircraft by category, and Figure IV-21 compares tactical aircraft production rates. These production figures include both dual-role and single-role Soviet and US aircraft.

The US Air Force continues its growth toward a 40 tactical fighter wing (TFW) equivalent force struc-

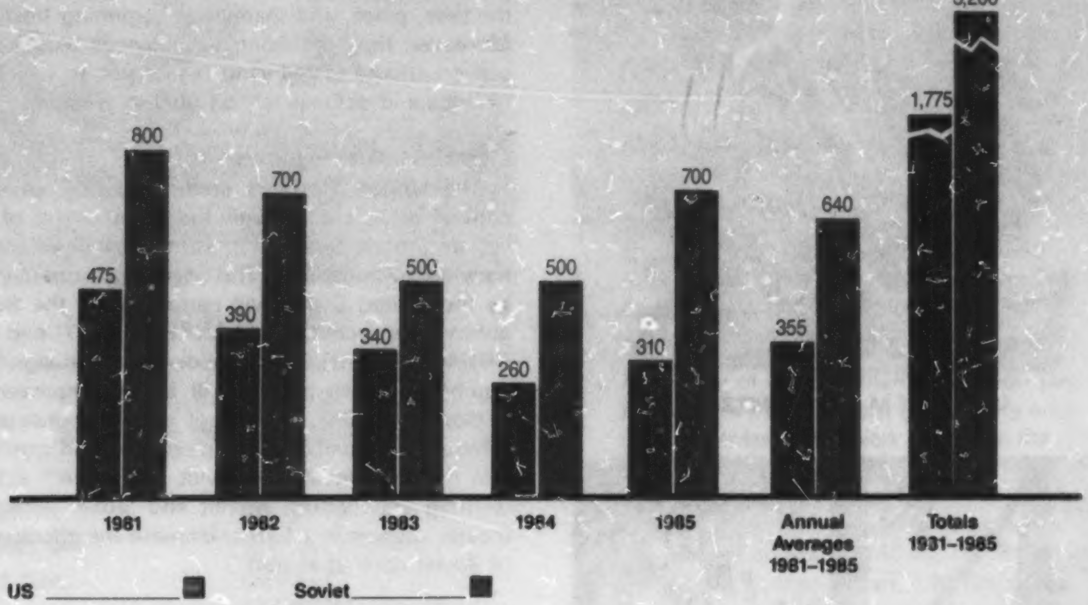
Current US–Soviet Combat Aircraft

Category	*US Aircraft*	*USSR Aircraft*
Air-to-Surface	B–1B, B–52, FB–111	BACKFIRE, BEAR, BISON, BADGER, BLINDER
	F–111, A–6	FENCER
	F–4, A–7, A–4, F / A–18, F–16	FLOGGER, FISHBED, FITTER
	AV–8	FORGER
	A–10	FROGFOOT
Air-to-Air	F–15, F–14, F–4	FLOGGER, FOXBAT, FOXHOUND, FIDDLER, FLANKER
	F–16, F / A–18	FULCRUM, FISHBED, FLAGON, FIREBAR
RECCE / EW / - AWACS	RF–4, SR–71, F–14 TARPS	FITTER, FOXBAT, FISHBED
	U–2, TR–1	
	RC–135	BEAR, BLINDER
	EF–111, EA–6, EA–3	FENCER, BREWER, BADGER
	E–3A, E–2, EC–130	MAINSTAY, MOSS, CUB

As of 1 January 1986

FIGURE IV–20

US–Soviet Annual Production of Tactical Combat Aircraft*



*Includes interceptor aircraft for strategic defense, trainers, and ASW aircraft

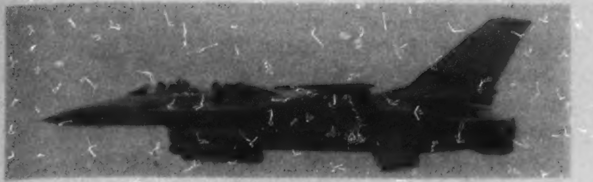
As of 1 January 1986

FIGURE IV-21

ture and should reach approximately 39 TFWs by FY 1991. Although the rate of growth is not as rapid as originally planned, the current inventory will be increased by approximately three TFWs, and significant modernization will accompany this growth. For example, the fighter squadron deployed in Iceland has modernized from F-4Es to F-15Cs with a corresponding 50 percent increase in aircraft; the first squadron of F-16s has been established at Misawa AB, Japan, with a second squadron to follow; two squadrons of F-16s will replace two squadrons of F-4Es at Ramstein AB, Germany; the Air National Guard continues to receive F-15s and additional F-16s. In addition, the current force will be improved substantially through engine modification programs, increased air-to-air missile self-protection capabilities, and upgraded defensive systems for most tactical aircraft. Additional procurement of AIM-7M radar missiles and AIM-9M heat-seeking missiles will add significantly to the US capability for air-to-air combat. Additionally, the availability of LANTIRN navigation pods will enhance the ability of tactical air forces to deliver ordnance on target during night and under-the-weather operations. While conventional capabilities continue to improve, funding constraints have kept combat rescue from keeping pace with other forces.

F-15

F-16



LANTIRN ON F-16B

B-1B MULTI-ROLE
LONG-RANGE COMBAT AIRCRAFT

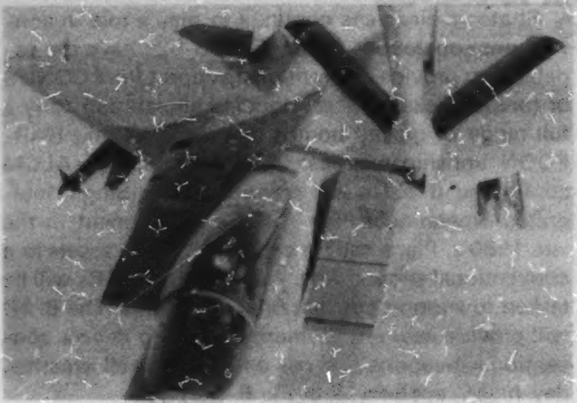
COMBAT RESCUE

Strategic air forces continue to play a role in conventional operations. Many SAC B-52s have the capability to provide conventional support from CONUS or forward bases. These modified aircraft can carry a full range of gravity bombs, naval mines, and HARPOON antiship missiles. Currently, all non-ALCM configured B-52Gs will relinquish their Single Integrated Operational Plan (SIOP) commitment in the late 1980's. Plans call for dedicating these assets to a conventional support role. Additionally, B-1Bs will be tasked to support conventional operations. The B-1B will provide new employment options to deliver conventional weapons and has an improved all-weather, day-night capability over the B-52.

KC-10 MULTI-ROLE CARGO-TANKER

In-flight refueling by the KC-10 and KC-135 enhances the effectiveness and flexibility of US and allied aircraft. This capability allows tactical combat aircraft to carry maximum payloads and employ optimum tactics. The closure time of reinforcing forces is also reduced by permitting nonstop transit to forward operating locations. In addition, timely aerial refueling extends the loiter time of surveillance and reconnaissance aircraft allowing more efficient use of these assets.

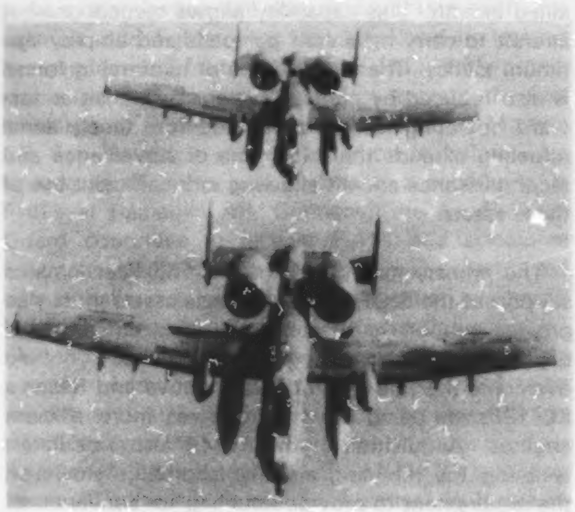
The primary mission of the KC-135 fleet remains support of the SIOP; however, these assets must also provide support to theater forces and conventional deployment and employment operations. To help overcome the refueling shortfall, Active and Reserve KC-135s are being fitted with newer, more efficient engines. Acquisition of the KC-10 also aids in alleviating the refueling/mobility shortfall. However, the requirement to provide refueling for conventional mobility and combat forces continues to expand.



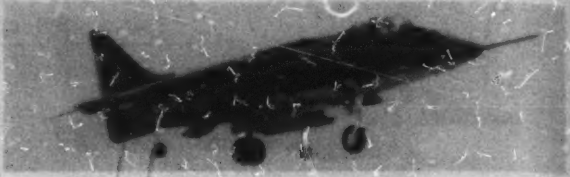
F-15 AIR REFUELING

The US Marine Corps continues to modernize its tactical air systems, air defense weapons, and airspace command and control systems. Significant improvements will result from further production of the F/A-18 and continued expansion of the AV-8B inventory to improve light attack forces. By FY 1987, this modernization will include the transition of the first six F-4 squadrons to F/A-18s, the first A-4M squadron to AV-8Bs, and two AV-8A/C squadrons to AV-8Bs. Marine Corps air defense is being improved by adding HAWK missile units. The LASER MAVERICK, STINGER POST, HELLFIRE missiles, and GATOR mines will also add to the improved capabilities of Marine aviation and air defense elements.

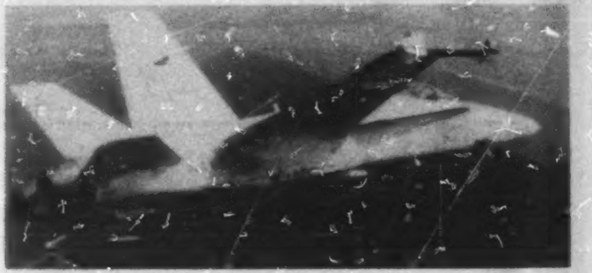
The Navy's tactical aviation force is expanding to support a goal of 15 aircraft carrier groups. The 14th carrier air wing is scheduled to be activated in FY 1987. The dual-mission F/A-18 has been introduced to the fleet, and 5 of 26 programmed Navy squadrons have been established. By 1987, the Navy will have 10 Active F/A-18 squadrons. Modernization programs are under way to upgrade the F-14A, its PHOENIX missile system, and the A-6E to counter the threat of the 1990s. In FY 1987, the Naval Air Reserve will continue its modernization program: F-14A deliveries will commence to the last two fighter squadrons; attack squadrons will have completed transitioning to A-7Es; and integration of the F/A-18 will continue with a second attack squadron transitioning by the end of the fiscal year.



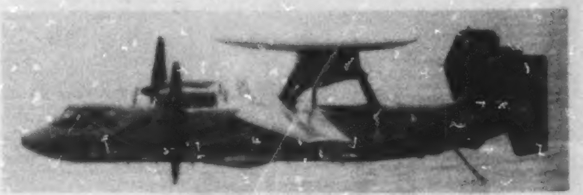
A-10 CLOSE AIR SUPPORT AIRCRAFT



USMC AV-8B HARRIER



USN F/A-18



USN E-2C HAWKEYE AIRBORNE
EARLY WARNING (AEW) AIRCRAFT

USN — S-3A VIKING
ANTISUBMARINE (ASW) AIRCRAFT

Naval Forces

The US Navy has embarked on an important shipbuilding program in response to the buildup and modernization of Soviet naval forces and requirements of US military strategy. The key long-term goals of the Navy's 600-ship force are 15 Carrier Battle Groups, 4 Battleship Surface Action Groups, 100 SSNs, 10 Underway Replenishment Groups, 14 Mine Countermeasures ships, and amphibious ships sufficient to lift the assault echelons of a Marine Amphibious Force (MAF) plus a Marine Amphibious Brigade (MAB). Figure IV-22 outlines the FY 1987 shipbuilding program.

USN A-6E INTRUDER
ALL-WEATHER ATTACK AIRCRAFT

USN F-14 TOMCAT

This modernization program is most dramatically reflected in the addition of major surface combatants. USS THEODORE ROOSEVELT (CVN-71) is being fitted out and is scheduled for delivery in 1986 with the USS ABRAHAM LINCOLN (CVN-72) and USS GEORGE WASHINGTON (CVN-73) to follow. The battleships NEW JERSEY and IOWA have been commissioned. The USS MISSOURI will be delivered in 1986 and USS WISCONSIN has been authorized for reactivation.

The AEGIS-equipped guided missile cruisers USS YORKTOWN (CG-48) and USS VINCENNES (CG-

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US Naval Shipbuilding Program

Category/Class	*FY87*	*FY88*	*FY89*	*FY90*	*FY91*	*TOTAL*
Ballistic Missile Submarines	1	1	1	1	1	5
Nuclear-powered Attack Submarines	3	3	4	4	3	17
Aircraft Carriers	–	–	–	–	–	–
Cruisers	2	2	2	2	–	8
Destroyers	3	3	3	3	5	17
Amphibious Ships	–	1	2	1	2	6
Mine Warfare Ships	8	4	4	–	–	16
Support Ships	7	6	5	9	9	36
Landing Craft (Air-cushion)	–	12	12	9	9	42
Conversions/Reactivations						
Battleship	1	–	–	–	–	1
Aircraft Carrier SLEP*	–	1	–	–	1	2
Landing Personnel Dock–4 SLEP*	–	–	1	3	3	7
Oiler (Jumbo)	1	1	1	2	–	5
Moored Training Ship (Conventional)	1	–	–	–	–	1
Auxiliary Crane Ship (Conventional)	2	2	2	–	–	6

* *Service Life Extension Program*

As of 1 January 1986

FIGURE IV–22

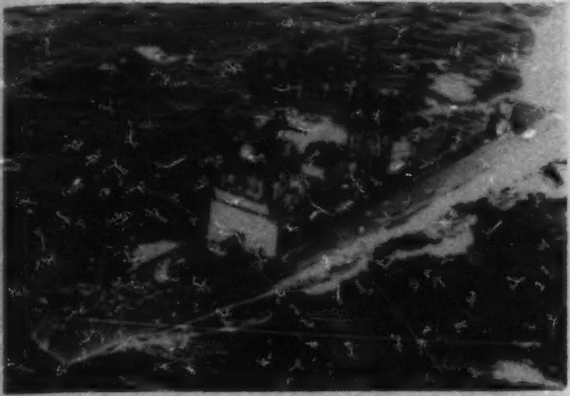
USS AMERICA WITH BATTLE GROUP

49) have recently joined the USS TICONDEROGA, already active with the fleet. Nineteen cruisers of this class have been authorized and appropriated by the Congress. A total of 27 ships of this class is planned. The ARLEIGH BURKE-class (DDG-51) guided missile destroyer incorporates the AEGIS system with a Vertical Launch System (VLS) that accommodates a variety of antiair and antisubmarine weapons and TOMAHAWK missiles. The lead ship was appropriated in FY 1986. Fleet introduction of the SH-60B LAMPS MK III helicopter, improved active sonar (AN/SQS-53C), improved tactical towed array (AN/SQR-19), and improved sensor processing and display will significantly enhance the ability to detect and prosecute enemy submarines.

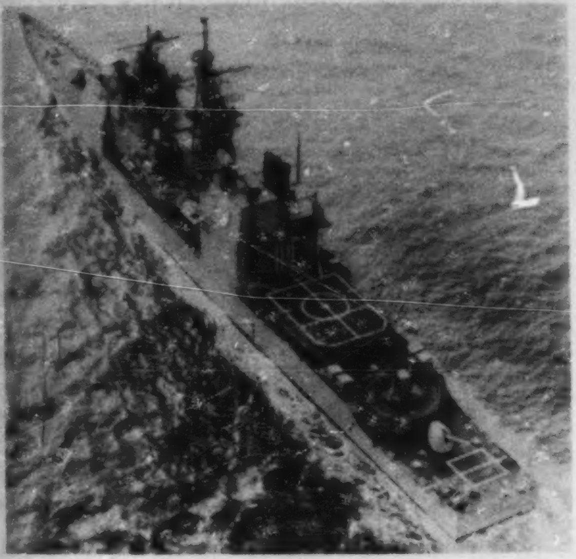
USS IOWA (BB-61)

The existing fleet is also being modernized. All 26 cruisers in the current inventory are receiving a longer range SAM and are receiving a faster, more tightly integrated computerized combat system, the New Threat Upgrade. Twenty-four of the 31 SPRUANCE-class destroyers will receive the VLS, in addition to backfit of the ASW systems described in the previous paragraph.

The LOS ANGELES-class submarine is quieter, faster, and more capable than earlier US nuclear attack submarines. Fourteen LOS ANGELES-class submarines will be authorized between FY 1987 and FY 1991. The follow-on SSN-21-class is being developed for the mid-1990s and beyond. This submarine will be faster, more heavily armed, and quieter than the LOS ANGELES-class and will have an increased capability for diving and operations under ice. ASW capability will also be strengthened through such



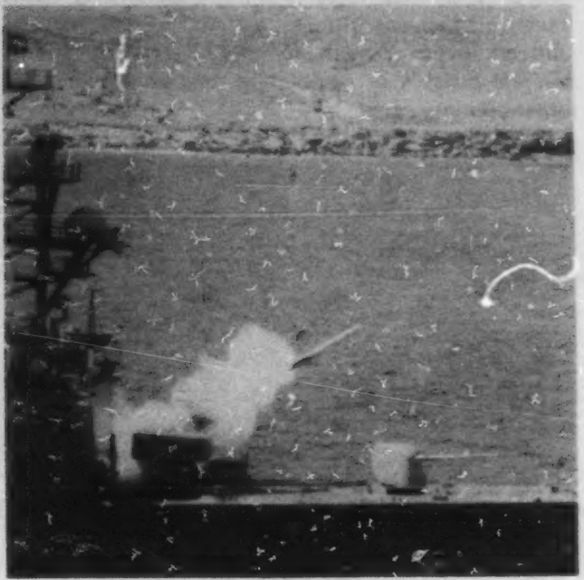
USS HAYLER (DD-997)
SPRUANCE-CLASS DESTROYER



USS YORKTOWN (CG-48)
AEGIS GUIDED MISSILE CRUISER

planned programs as the surface towed array sonar system (SURTASS/TAGOS), update IV avionics for patrol aircraft, S-3A Weapon System Improvement Program, and the SH-60F CV inner-zone helicopter.

The Soviets have over 200,000 naval mines with the capability to plant them near SLOCs, choke points, and in key ocean and harbor areas. To counter this threat, more effective US mine warfare platforms, such as the AVENGER-class mine countermeasures ship (MCM-1), will soon enter the fleet. Fourteen MCM-1 vessels will be built. The first of 18 CARDINAL-class minesweeper hunter ships was appropriated in FY 1984 and four more were funded in FY 1986. The FY 1987 budget requests funds for five additional units.



TOMAHAWK
SURFACE-TO-SURFACE MISSILE (SSM)

USS LOS ANGELES (SSN-688)
NUCLEAR ATTACK SUBMARINE

Amphibious Forces

The Navy-Marine Corps amphibious team provides an effective combat force for deterrence and power projection. The mobility of the amphibious task force permits it to concentrate combat power when and where needed, to accomplish the assigned mission, and then move on to other tasks. The Marine air-ground task force (MAGTF) provides ground and air combat elements capable of conducting forcible entry to seize and control strategic choke points and lodgments as well as establishing and defending bases essential to a naval campaign. MAGTFs are organized and equipped primarily for amphibious operations, but are capable of responding to a wide variety of other contingencies.

AMPHIBIOUS ASSAULT LANDING

A MAF is the largest MAGTF for planning and is normally built around one division, an aircraft wing, and a force service support group. During FY 1986, the Marine Corps will maintain three MAFs within its active structure, one in the Western Pacific and one on each coast of the United States. Upon mobilization, the Selected Marine Corps Reserve will augment/reinforce the three Active MAFs, form a MAB headquarters, or act as a nucleus for reconstitution of a division wing team (DWT). If augmentation/reinforcement is not ordered, it would constitute a fully structured DWT.

The firepower available to the maneuver elements of the MAF has been improved through the increased lethality and range of the M198, 155mm towed howitzer. Further, each MAF's counterfire capability will be improved by the activation of the last of three target acquisition batteries by FY 1988. Each division's antiarmor capability is being significantly increased with the addition of a tube-launched, optically tracked, wire-guided missile (TOW) platoon to each infantry regiment. Commencing in FY 1988, the division's TOW assets will be organized into an antitank battalion to enhance tactical employment and to capitalize on supply and maintenance economies. Other antiarmor improvements include procurement of an improved light antitank weapon and improvements in the capability of the DRAGON antitank weapons in each infantry battalion.

USMC LIGHT ARMORED VEHICLE (LAV)

MARINES IN COLD WEATHER COMBAT GEAR

Amphibious assault capability is being improved by the replacement of older amphibious ships with the highly capable LHD-1 and LSD-41 (VAR) (cargo variant) ship. Ship-to-shore capability is being improved by the introduction of Landing Craft, Air-Cushion (LCAC) and the Assault Amphibian Vehicle Service Life Extension Program (AAV SLEP). The LCAC can carry a 60-ton payload from an over-the-horizon launch to the beach at speeds in excess of 40 knots. Initial delivery of LCACs has already commenced. In addition, the AAV SLEP will extend the life of existing amphibians into the 1990s. Armored mobility and firepower on the ground will be improved with the fielding of the Light Armored Vehicle (LAV). The first two battalions have been activated and the third battalion is to be activated in 1986; a Reserve LAV battalion will be activated in 1987.

LANDING CRAFT, AIR-CUSHION (LCAC) VEHICLE

ASSAULT VEHICLES MOVING ASHORE

USMC CH-53E

The modernization of Marine airlift is centered on CH-53E heavy lift helicopters. The CH-53E lift capability permits the airlift of over 93 percent of a division's combat essential equipment. Figure IV-23 depicts major Marine Corps modernization programs.

Chemical Capabilities

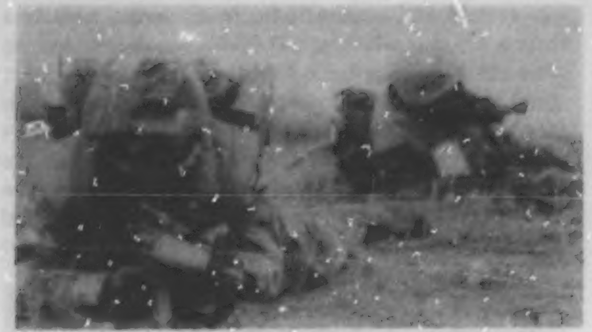
The adequacy of the US chemical warfare (CW) posture remains a matter of grave concern. The Soviets continue to maintain the most significant capability in the world to employ chemical weapons. There is evidence that the Soviet Union has used lethal chemical agents against the people of Afghanistan and sponsored the use of these agents and toxins in Laos and Cambodia, despite the fact that it is a signatory to the 1925 Geneva Protocol. The United States, which is also a signatory to the Geneva Protocol, has a policy of no first use of chemical weapons. However, the United States has reserved the right to retaliate should the United States or its allies be attacked with these weapons.

Marine Corps Modernization

System	*Description*	*Status*
CH-53E	Heavy lift helicopter	Three squadrons operational
AV-8B	VSTOL attack aircraft	In production, one squadron operational
F/A-18	Fighter/attack aircraft	In production, 4 of 12 squadrons converted from F-4
AAV	Assault amphibian vehicle	Undergoing major upgrades and service life extension
LAV	Light armored vehicle	In production, operational
LCAC	Air-cushion landing craft	In production, operational FY 1986
MV-22	Vertical lift aircraft	In development

As of 1 January 1986

FIGURE IV-23



MARINES IN
CHEMICAL PROTECTIVE MASKS

USAF CHEMICAL DECONTAMINATION TEAMS

The United States has refrained from producing chemical weapons since 1969 in the hope that the Soviets would exercise similar restraint. The Soviet Union, however, has continued to develop its CW capabilities by a vigorous research and development effort, stockpiling large quantities of chemical agents, maintaining an extensive agent production capability, deploying chemical weapons with modern delivery capabilities, and training extensively in CW. Since the mid-1970s, the United States has attempted, with little progress, to negotiate an effective, verifiable chemical weapons arms control agreement with the Soviet Union. The United States has focused its CW efforts on defensive capabilities and the maintenance of a limited retaliatory capability.

US ARMY
CHEMICAL DETECTION TEAM

The United States has made some progress in its chemical defense program. Individual protective equipment is available to all Services; improved detection equipment has been fielded; fixed and portable collective protection systems are being procured. Research and development is under way to provide better equipment, to include medical pretreatments and antidotes. Figure IV-24 outlines the current US chemical defense posture. Chemical defense programs require continued strong support.

Despite improvements in defensive chemical programs, a defensive chemical posture is not enough. The aging US stockpile of present-day weapons is rapidly losing its deterrent value. The United States must have a credible CW retaliatory capability so the

US Chemical Warfare Protection Capabilities

Category	*Currently Used*	*Planned Improvements*
• Individual protection	• Protective mask • Protective overgarment	• Improved mask • Lightweight overgarments
[redacted]	[redacted]	[redacted]
• Detection and warning	• Detection paper • Chemical agent alarm • Chemical agent detector kit	• Hand-held monitor • Unattended remote sensor • Point scanner
[redacted]	[redacted]	[redacted]

As of 1 January 1986

FIGURE IV-24

Soviets will be forced to consider the consequences to their own forces if they initiate the use of CW. The majority of US chemical munitions can no longer be used effectively in combat. The most critical deficiency is the lack of a persistent chemical agent-filled munition that can be delivered against targets beyond artillery range. The Soviets can attack and degrade not only close-in targets, but also airfields, logistic nodes, command and control facilities, and other functions. US and allied forces have a very limited capability to retaliate and impose similar degradations on the Warsaw Pact.

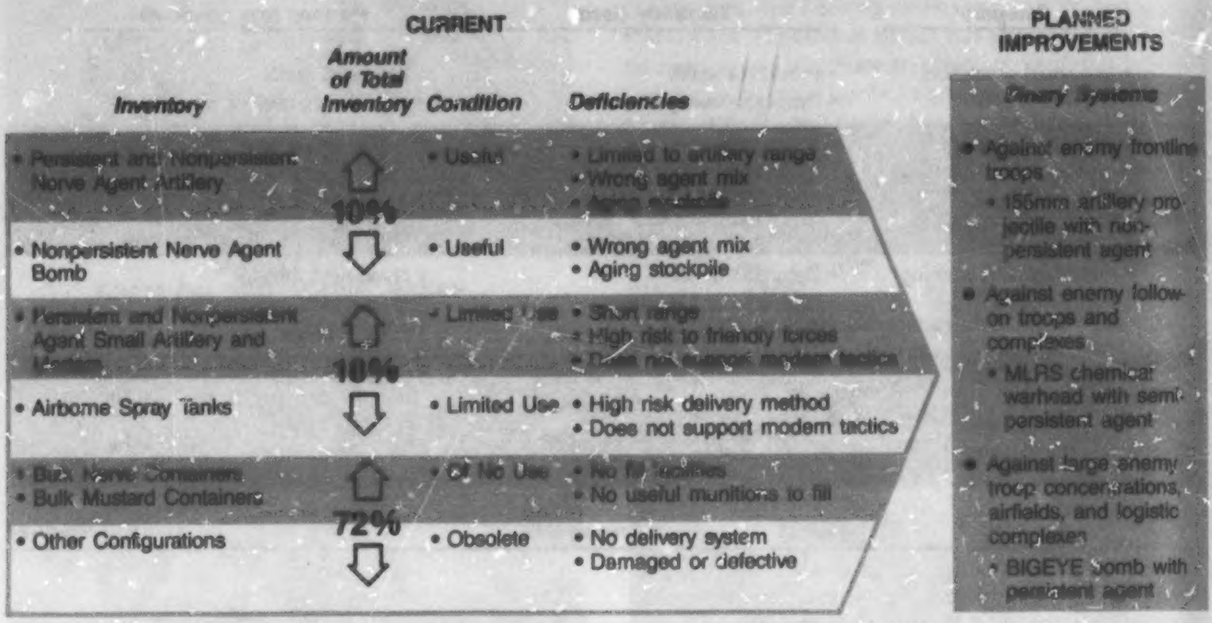
To provide a credible CW deterrent, the United States needs to acquire modern chemical munitions and improve delivery means. Only by establishing a credible CW retaliatory capability can the United States hope to raise the level of deterrence and persuade the Soviets to negotiate a chemical weapons ban seriously. Figure IV-25 summerizes US retaliatory capabilities and modernization programs.

Special Operations Forces

Special operations forces (SOF) are specially trained, equipped and organized Department of Defense (DOD) forces with the mission of conducting special operations (SO) in pursuit of national military, political, economic or psychological objectives. SO may be conducted during periods of peace or war and they may support conventional operations or be

SPECIAL OPERATIONS FORCES

US Chemical Retaliatory Capabilities



CURRENT

Inventory	*Amount of Total Inventory*	*Condition*	*Deficiencies*
• Persistent and Nonpersistent Nerve Agent Artillery	10%	• Useful	• Limited to artillery range • Wrong agent mix • Aging stockpile
• Nonpersistent Nerve Agent Bomb		• Useful	• Wrong agent mix • Aging stockpile
• Persistent and Nonpersistent Agent Small Artillery and Mortars	10%	• Limited Use	• Short range • High risk to friendly forces • Does not support modern tactics
• Airborne Spray Tanks		• Limited Use	• High risk delivery method • Does not support modern tactics
• Bulk Nerve Containers • Bulk Mustard Containers	72%	• Of No Use	• No fill facilities • No useful munitions to fill
• Other Configurations		• Obsolete	• No delivery system • Damaged or defective

PLANNED IMPROVEMENTS

Binary Systems

- Against enemy frontline troops
  - 155mm artillery projectile with nonpersistent agent
- Against enemy follow-on troops and complexes
  - MLRS chemical warhead with semi-persistent agent
- Against large enemy troop concentrations, airfields, and logistic complexes
  - BIGEYE bomb with persistent agent

As of 1 January 1986

FIGURE IV-25

tasked independently when the use of conventional forces is either inappropriate or infeasible.

SO may include unconventional warfare (UW), combating terrorism, collective security (to include foreign internal defense (FID)) psychological operations (PSYOP), deception, direct action (DA) missions, intelligence (strategic and tactical) collection and reporting.

AC-130 GUNSHIP

The Joint Special Operations Agency (JSOA), operating under direction of the Joint Chiefs of Staff, provides oversight to improve the management of SOF and increase the responsiveness of these forces to worldwide requirements. JSOA is charged with advising the JCS in all matters pertaining to SO and military activities including strategy, planning, programming, budgeting, resource development and allocation, joint doctrinal guidance, exercise and readiness evaluation, and employment of forces. Figure IV-26 outlines some of the initiatives under way to enhance these forces.

EMPLOYING AND SUPPORTING THE FORCES

Force Capabilities

Status and Trends

The readiness of forces to perform their missions depends on the personnel and materiel resources provided and how well those resources are trained and maintained. The capabilities of US forces continue to improve as a result of successful recruiting and re-

US Special Operations Forces

Service	*Current Forces*	*Initiatives*
Army	• 1 Special Operations Command 8 Special Forces Groups 24 Special Forces Battalions 4 PSYOP Groups 13 PSYOP Battalions 2 Special Operations Aviation Battalions • 1 Ranger Regiment HQ • 3 Ranger Battalions • 1 Civil Affairs Battalion (Active) 3 Civil Affairs Commands (USAR) 5 Civil Affairs Brigades (USAR) 4 Civil Affairs Groups (USAR) 24 Civil Affairs Companies (USAR)	• Additional special forces group • Increases in special forces and PSYOP personnel, helicopters, and staff support • Equipment improvements • Additional special operations aviation battalion
Navy/USMC	• 4 NAVSPECWAR Groups 7 NAVSPECWAR Units 2 SEAL Delivery Vehicle Teams 6 SEAL Teams 2 Special Boat Squadrons 6 Special Boat Units 2 Light Attack Squadrons (USMCR) 3 Dry-deck Shelter-capable Submarines • 4 Civil Affairs Groups (USMCR)	• 1 new SEAL team • Procurement of specialized equipment • Construction of special facilities and support craft • 3 dry-deck shelter-capable submarines per fleet • Marine Amphibious unit special operations capability (MAU/SOC)
Air Force	• 1 Air Division 1 Special Operations Wing 5 Special Operations Squadrons 1 Helicopter Detachment 1 Combat Control Squadron • 2 Reserve Special Operations Groups 3 Special Operations Squadrons	• Additional COMBAT TALON (MC-130) aircraft • EC-130E VOLANT SOLO II aircraft upgrade • Upgrade of survival systems and inflight refueling • Navigation and special avionics upgrades • Additional HH-53 PAVE LOW helicopters • Additional AC-130H gunships

As of 1 January 1986

FIGURE IV-26

tention efforts, improved training, increased emphasis on the equipment modernization programs, and enhanced logistical support programs. Sustained funding will be required to maintain the current momentum.

Recent trends have placed increased reliance upon RC forces to perform many missions that would be required in the initial stages of a crisis. However, these forces are not fully responsive because of legal constraints to their recall. Before continuing to increase our reliance on Reserve forces, the economic and strategic advantages of the current mix should be measured against the impact of expansion on peacetime presence, military strategy, and capabilities to perform warfighting missions in a timely manner.

Existing legislation can provide only limited early access to RC capabilities. Recent analysis conducted by the JCS concluded that the 100,000 Selected Reserve ceiling available to the President under his callup authority should be raised to 200,000. This increase is essential to meet the needs of the unified and specified commands and to prepare the CONUS mobilization base for further expansion.

Reserve Force Contributions

Reserve forces, which constitute approximately 45 percent of the total force structure, play a key role in the implementation of US military strategy. Over one-third of the Army's combat divisions are in the Army National Guard; two-thirds of the combat service support structure is in the reserve. Half of the Military

Airlift Command's (MAC) strategic airlift crews and SAC tanker-cargo (KC-10) aircrews, 92 percent of Air Force aeromedical evacuation aircrews, 54 percent of the tactical airlift capability, 73 percent of the CONUS strategic interceptor forces, and 33 percent of the tactical fighter forces belong to the Air National Guard or Air Force Reserve.

The Naval Reserve operates over 86 percent of the ocean minesweepers, and contributes one-third of the total Navy medical support personnel. Ninety percent of Port Security forces for deployment ports is provided by the Coast Guard Reserve. The Marine Corps Reserve provides 25 percent of the Marine Corps structure with an additional division, aircraft wing, and force service support group.

Reserve forces play an important role in day-to-day operations. Within the last year, 24,000 Army and 6,000 Air National Guard and Reserve members participated in 14 major international exercises worldwide. Naval Reserve maritime patrol aircraft (P-3s) routinely perform land-based ASW patrols from bases in the Atlantic and Pacific. In addition to their primary mission of refueling SAC alert forces, Air Force Reserve tankers support forces of that command in Europe, the Pacific, and Alaska. Air Reserve aerial port teams regularly provide augmentation at major air terminals in CONUS and overseas. Intratheater airlift forces provide over 12,000 hours per year of joint airborne/air transportability training missions. Air Force Reserve C-5 and C-141 aircrews routinely fly 30 percent of MAC's airlift missions worldwide. The increasing number of Naval Reserve Force frigates maintain wartime readiness while operating and exercising with active force ships. The Coast Guard reserve provides waterborne security for all space shuttle launches at Cape Canaveral, escort of TRIDENT submarines, and other events when it is necessary to establish port security zones. During FY 1985, Marine Corps reserves participated in 18 major exercises conducted in CONUS, Alaska, Korea, Thailand, Panama, Canada, Guam, and England.

Training and Exercises

Realistic and challenging training is essential to the development and maintenance of US capabilities. Facilities such as the Army's National Training Center, the Marine Corps' Air-Ground Combat Center, and the Air Force's Fighter Weapons Center and the Strategic Training Route complex provide environments in which units can experience wartime conditions against realistic adversaries. Data gathered at these and similar facilities allow the Services to improve doctrine, tactics, training methods, and unit operating procedures. Range modernization, acquisition of training simulators and devices, and the increased use of technology are helping to provide more effective, realistic training. Cooperative training projects with our NATO Allies provide economies of scale and enhance standardization of tactics and procedures.

EXERCISE BRIGHT STAR

As an important extension of Service training, the exercise programs directed and coordinated by the JCS provide opportunities to evaluate joint doctrine; tactics, techniques, and procedures; and command and control capabilities — knowledge essential to ensure the readiness of US forces to support the unified and specified commands. This program, which includes approximately 95 exercises per year, takes place throughout the world. Additionally, combined exercises with allies provide the necessary interaction to test and evaluate combined systems, effectiveness of LOCs, and adequacy of mutual support agreements.

In addition to supporting general training objectives, joint exercises demonstrate US resolve and the capability to project a military presence in support of national interests and commitments. The BRIGHT STAR series of exercises conducted in Southwest Asia demonstrates the US capability to project military forces into that region should the need arise. Similarly, intensified joint and combined exercises have been conducted with friends and allies in the Central American-Caribbean region. The annual REFORGER/CRESTED CAP exercises for the reinforcement of NATO, and TEAM SPIRIT which takes place in Korea, continue to demonstrate resolve and support for US allies in those regions.

EXERCISE TEAM SPIRIT

These various full-spectrum training and exercise programs are considered essential to maintaining the readiness of theater-assigned/augmentation forces. The programs serve as an excellent means to test all aspects of US reinforcement plans and the interoperability of host-nation general defense plans, systems, and procedures. The programs also demonstrate the capability to deploy substantial military power and provide a means for evaluating fighting concepts and procedures, interoperability, and sustainment of forces.

Mobility

US military strategy requires the capability to deploy forces rapidly and sustain them. Air, sea, and land mobility forces must be able to deliver forces where they are needed in time to make a difference. Intertheater and intratheater airlift will generally transport deploying forces during the early days of a crisis until surge sealift begins to arrive with the bulk of deploying unit equipment. These movements will include personnel and equipment supported by pre-positioned stocks. Sealift delivers follow-on forces and provides the sustaining power for deployed forces. Land mobility forces provide needed offload capabilities and, together with intratheater airlift and sealift, support onward movement requirements.

EXERCISE REFORGER

C-5A GALAXY

Airlift

Airlift is essential to the rapid deployment of US forces. Programmed increases in intertheater aircraft, continued acquisition of aircraft spares, extensions to service lives of existing aircraft, and enhancement of Civil Reserve Air Fleet (CRAF) capabilities are contributing to maintaining improvements in aircraft readiness and sustainability. A summary of airlift forces is presented in Figure IV-27.

US Airlift Forces

Military Aircraft

Type	Number** (Active/Reserve)
C–5	62*/8
C–141	218*/16
C–130	216/304
KC–10	38*/0

Civil Reserve Air Fleet

Type	Number**
Domestic	57
Alaskan	15
Short-range International (cargo)	6
Short-range International (passengers)	20
Long-range International (cargo)	67
Long-range International (passengers)	227

* C–5, C–141, and KC–10s are jointly operated by Active and Associate Reserve Units

** Full Activation

As of 1 January 1986 *FIGURE IV–27*

The FY 1987 funded airlift force will provide approximately 45 million-ton-miles per day (MTM/D) of intertheater cargo airlift capability which includes the acquisition of C-5Bs and additional KC-10s. Wing repairs and modifications will extend the service life of C-130A aircraft into the 1990s and the C-130B/E aircraft well past the year 2000.

CRAF consists of commercial aircraft voluntarily committed by US civil air carriers to serve during national emergencies. The CRAF Enhancement Program is designed to modify passenger aircraft into convertible freighters suitable for bulk and oversize cargo. The airlines have received one DC-10, two B-747s, and expect to receive six more B-747s in FY 1986. FY 1986 funding will complete the modification program for a total of 19 B-747s and 1 DC-10. These modified aircraft will provide an additional 3.0 MTM/D of cargo capability.

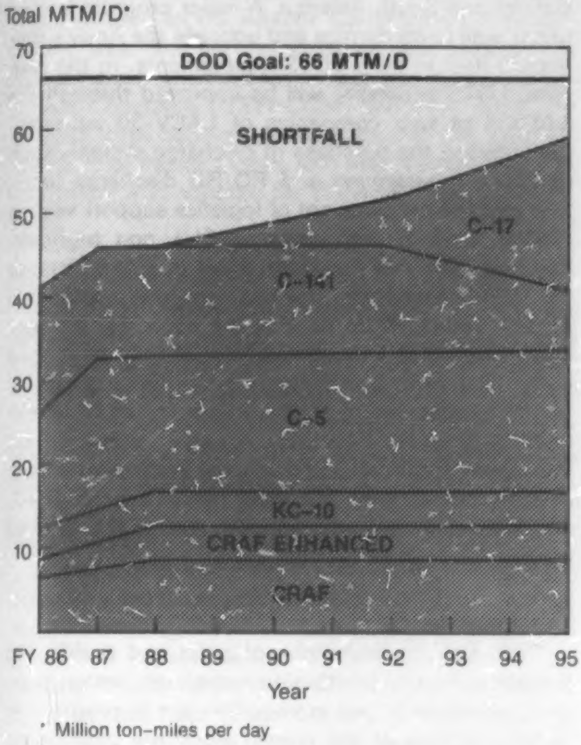
C-130E HERCULES

The C-17 is programmed to reduce the airlift shortfall further. Full-scale engineering continues, with the IOC scheduled for FY 1992. This aircraft will provide increased intertheater and intratheater capabilities to deliver troops and all categories of cargo, including outsize, to field commanders, using normal and combat offload techniques, outsize airdrop, or low-altitude parachute extraction. The air-refuelable C-17 has outstanding ground maneuverability and takeoff and landing profiles designed to allow routine operations at small, austere airfields. These features will provide considerable operational flexibility. The C-17 will replace part of the C-141B fleet as that aircraft approaches the end of its useful service life. The C-17 also offers the additional bonus of offsetting capabilities lost when the older C-130s retire. A summary of programmed intertheater cargo airlift capability is presented in Figure IV-28.

C-17

US Intertheater Cargo Airlift Capability

(Funded)



* Million ton-miles per day

As of 1 January 1986 *FIGURE IV-28*

US NAVY — MILITARY SEALIFT COMMAND ROLL-ON/ROLL-OFF (RO/RO) SHIP

Sealift

In any major overseas deployment, sealift will deliver about 95 percent of all dry cargo and 99 percent of all petroleum products. However, the number of militarily useful US-flag dry cargo ships available to support deployments has continued to decline with little hope of resurgence in the near term. Not only is the number of available ships declining, but those remaining are not necessarily the most suitable for military purposes. The most useful ships for military deployment are roll-on/roll-off (RO/RO), breakbulk, and barge carriers.

The US-flag merchant marine's decline necessitates a large pool of government-owned shipping, such as the Ready Reserve Force (RRF), to furnish readily available lift capacity that is needed in time of mobilization. The RRF provides the surge shipping needed early for a deployment. In 1985, the Navy began to locate some of the RRF ships at activation ports to increase their response time. Ships in the National Defense Reserve Fleet (NDRF), another set of government-owned shipping, are a valuable but aging asset, currently capable of providing approximately 136 ships for sustainment requirements/attrition replacements.

The sealift support from our allies has become increasingly important. This support is necessary to offset the continued decline in US commercial sealift assets. NATO has promised up to 600 ships for the rapid reinforcement of NATO and Korea has promised 45 ships for its support. However, the NATO shipping pool is also declining. This fact may in the future cause NATO to institute some type of government controlled shipping pool similar to the US RRF. Strategic sealift resources are shown in Figure IV-29.

The Civil Reserve Auxiliary Fleet Ships (CRAFTS) program will encourage more US-built ships in the world shipping trade. Under the CRAFTS concept, potential operators and builders work in conjunction with the Navy to design and build economically viable, militarily useful ships. The Navy will pay up front for those systems/enhancement features, as well as an operating penalty (fuel cost) due to increased dead weight. This will provide a US operating ship which can be called upon in time of emergency to support sealift surge and resupply requirements and is a more cost-effective, long-term supplement to the RRF program.

Other strategic sealift programs are also under way. Eight SL-7 class-containerships have been purchased and converted to an enhanced partial RO/RO configuration. Two aviation logistics support ships (TAVB) will complete conversion in FY 1986 and will be placed into a RRF-like status. These ships will provide the lift for intermediate level maintenance facilities to support Marine Corps aircraft. Two other ships are

Strategic Sealift Resources

(Funded)

	Dry Cargo	Tankers
US Flag Merchant Ships	184	112
Government Controlled Ships		
Military Sealift Command Direct Controlled	13	21
Military Sealift Command Reduced Operating Status (ROS)	8	0
Military Sealift Command Pre-positioning Force		
• Pre-positioning Ships (PREPO)	8	4
• Maritime Pre-positioning Ships (MPS)	13	
Ready Reserve Force	70	9
Effective US Control	27	64
US Totals	323	210
NATO Pool	600	0
US—NATO Totals	923	210
Korea Ships*	40	5
National Defense Reserve Fleet (remaining useful)	137	6

* Not intertheater assets

As of 1 January 1986 *FIGURE IV–29*

ARMORED VEHICLES AWAIT LOADING

being converted into hospital ships (TAH). In addition, the auxiliary craneships program has been converting containerships to craneships in order to create the capability to offload non-self-sustaining shipping either pierside or in-stream.

Logistics Over the Shore (LOTS)

The ability to rapidly load, offload, and transfer unit equipment, bulk liquids, ammunition, and supplies is required to keep pace with airlift and sealift deliveries. Mobility analyses, such as the DOD Sealift Study, have identified the requirement to project a large, balanced force into a bare environment such as found in the Western Pacific, Southwest Asia, or Central and South America. A major program is now under way to modernize and upgrade the Army's watercraft fleet to meet LOTS requirements. In the near term, LOTS capability will be improved through the addition of two companies of LACV-30 air cushion vehicles, the purchase of discharge systems such as floating causeways and RO/RO discharge facilities, and the procurement of logistics support vessels (LSVs), landing craft, utility (LCU), and tugboats. The long-term Army program totals over $1 B through FY 1991 for research, development, and acquisition of new watercraft to provide the capability to meet a minimum LOTS requirement of 21,000 short tons daily. The Army and Navy are coordinating closely under the umbrella of a joint memorandum of agreement to procure, whenever possible, common and interoperable offload and discharge systems to ensure system compatibility, minimum overall cost to DOD, and maximum program support during the budget process.

Pre-Positioning

To overcome limitations of airlift and sealift, US programs for pre-positioning petroleum, water, supplies, equipment, and ammunition are in progress in various regions of the world. Such pre-positioning reduces rapid-deployment cargo requirements by permitting essential materials to be located where US forces would most likely be needed. Under the POMCUS program (pre-positioning of materiel configured to unit sets), equipment is being pre-positioned in Europe for Army divisions and numerous nondivisional support units. The pre-positioning of material configured to unit sets (POMCUS) program for Europe, the Marine Corps Land Pre-positioning in Norway, the war reserve stock for allies (WRSA) program for Korea, and important initiatives for Southwest Asia provide essential strategically located materiel.

Afloat pre-positioning allows the rapid movement of equipment and supplies from one region to another as priorities or circumstances dictate. The afloat pre-positioning force consists of two elements: the MPS program and the pre-positioning (PREPO) ships program (formerly Near-Term Pre-positioning Force (NTPF)).

The MPS program is designed to combine the responsiveness of airlifted Marines with sealift delivery of pre-positioned equipment. The 13 ships involved in the program will be organized into 3 MPS squadrons. The ships will carry equipment and 30 days of supplies for three MABs. The first squadron was deployed to US Atlantic Commands (USLANTCOM) area. The second squadron was deployed to Diego Garcia. The third MPS squadron deploys to US Pacific Command (USPACOM) this fiscal year. The PREPO ships consist of those ships in the Mediterranean Sea, Pacific Ocean, and Indian Ocean carrying equipment and supplies for the Army, Navy, and Air Force.

Deployment Management

The Joint Deployment System (JDS) is designed to assist in effective deployment planning and provide active management during force deployment execution. The JDS provides timely change capability and visibility of force movement to all deployment participants linking the NCA, Transportation Operating Agencies, force providers, and force users.

Sustainability

Sustainability is the staying power of military forces once they are deployed. A component of this is materiel sustainability. Materiel sustainability is composed of several interdependent elements, including theater pre-positioning programs, CONUS depot stocks, host-nation support, and the industrial production base. Over the past several years, Service program efforts have improved US sustainability worldwide; however, pre-positioning objectives represent only the minimum quantities required to sustain combat forces until the SLOCs can be securely established.

Ammunition

While there have been recent improvements, commanders continue to identify inadequate ammunition stockpiles as a significant constraint on their combat capabilities. These shortages are particularly acute for the more modern munitions which provide increased firepower while reducing delivery system vulnerability. The Services have continued to fund increases in war reserve ammunition stockage. Programs for correcting ammunition shortfalls, must strike a balance between increasing pre-positioned and CONUS stockpiles without undermining industrial base enhancements. Additionally, the United States has been encouraging allies to improve their own ammunition sustainability and to produce munitions compatible with US pre-positioned stocks within their countries.

Petroleum, Oils, and Lubricants

Significant progress has been realized in sustainability by increases in worldwide petroleum war reserves. Specific areas, however, still require additional efforts. Competing priorities for funds within NATO have delayed improvements to the Central European Pipeline System. In addition, maintenance of POL war reserve stock levels is becoming difficult due to rotation requirements and resultant quality control problems. It is becoming more important to rebuild DOD's land and ocean distribution assets so available stocks can be rapidly repositioned where and when needed. The Navy is progressing with development of the Offshore POL Discharge System (OPDS) which will allow bulk fuel discharge from large tankers across an unimproved beach or damaged port. OPDS supports the fuel requirements of Army, Air Force, and Marine Corps units operating ashore.

Military Construction

The NATO Alliance agreed in 1984 to support significant increases in infrastructure funding for 1985 through 1990. This level of funding represents more than a 50 percent real increase over annual funding for 1980 through 1984. This funding will lead to completion of minimum essential facilities for reception of US tactical aircraft at all collocated operating bases. It will also permit NATO to improve airbase survivability by construction of hardened aircraft shelters and support facilities and to continue planning for improved command and control capabilities.

In Southwest Asia, the objective of military construction (MILCON) programs is to provide a network of facilities to support pre-positioning of materiel and pre-deployment, staging, and employment of USCENTCOM forces. To date, airfield improvements and construction of logistic support facilities have greatly enhanced the US ability to deploy and sustain US forces in the region. In addition, leased warehouses will facilitate the pre-positioning of materiel, while port dredging will enhance fleet support. Negotiations for access and pre-positioning agreements are continuing and are a necessary preliminary for expanding current facilities in Southwest Asia.

Throughout the Pacific, host-nation and US military construction are continuing to improve POL, munitions, and medical storage capabilities, as well

F-15 IN HARD SHELTER

as the working and living conditions for US military personnel. Joint US-Japan funding is supporting the stationing of two F-16 squadrons in Japan. The arrival of the first squadron occurred in FY 1985. ROK-funded construction projects will enhance the combat support and survival of US forces deployed to Korea. MILCON is needed in Guam and the Philippines to maintain readiness.

Wartime Host-Nation Support

The objective of wartime host-nation support (WHNS) is to provide essential support of the LOCs, including reception, staging, onward movement, and resupply, to US forces deployed to foreign countries during times of tension or war. This support is made available to the United States through negotiated general bilateral agreements and detailed joint logistics plans. The assurance of this support through these agreements not only enhances sustainability of combat forces, but also lends credibility to the concept of a viable conventional defense. WHNS is provided to offset shortfalls in unilateral US capability, particularly in the early stages of a conflict. Progress continues as the detailed arrangements of the joint plans are further refined with NATO Allies. In the Pacific, Korea provides valuable wartime support by making available its airline, shipping, and traffic management assets in order to enhance the flow of essential logistics.

Medical Support

Shortfalls continue to exist in US medical support capabilities. If US forces were simultaneously engaged in both Western Europe and Northeast Asia, the Services could currently provide only 30 percent of the estimated 116,840 hospital beds required during the initial 60 to 90 days of combat. This shortfall is the result of inadequate funding prior to 1983, procurement delays, and inadequate HNS agreements for pre-positioning and deployment of medical assets. Current Service programs fund 13,580 new beds in FY 1986 and program 14,950 new beds in FY 1987. These beds, plus those funded but not delivered, will increase the total medical support capability to 78.1 percent of the programmed requirement. The additional medical assets to meet programmed requirements are expected to be available for deployment by FY 1993. Deployable medical systems must be funded at the programmed level to ensure acceptable medical care for theater combat forces.

Environmental Support

Force commanders require accurate and timely environmental information in order to fully exploit military force capabilities. The Congress must continue to fund military weather support programs which maintain the readiness of this combat support capability.

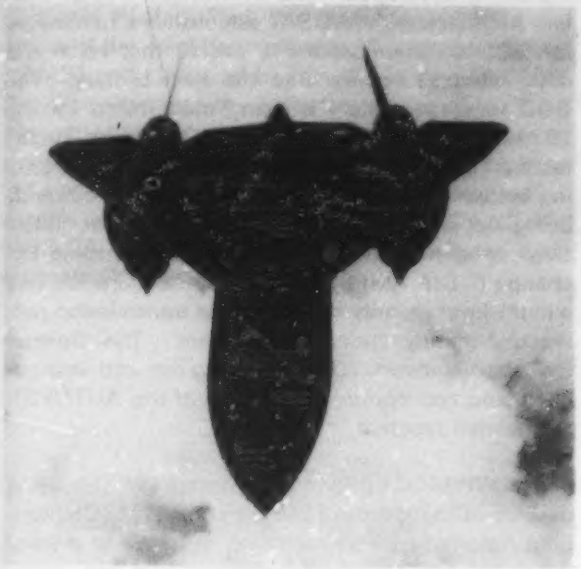
Intelligence

Access to accurate, timely information and warning of possible attack are essential for the NCA, JCS, and military commanders. Intelligence provides decisionmakers with assessments of enemy forces, capabilities, and probable courses of action. Human intelligence (HUMINT) continues to augment the capabilities of reconnaissance systems.

Reconnaissance Systems

The US reconnaissance program provides capabilities to meet many peacetime and wartime information collection requirements. Reconnaissance resources consist of strategic and tactical standoff, and penetration systems. These systems provide intelligence data that might otherwise be denied to operating forces.

Strategic airborne systems include U-2R, SR-71, RC-135, and EP-3E aircraft that carry a variety of sensors. Tactical aircraft standoff systems include the Air Force TR-1, EC-130, and RC-135; the Army OV-1 and RV-1D; the Navy EA-3B and EA-6B; and Marine Corps EA-6B. The only Air Force tactical reconnaissance aircraft used in a penetrating role is the RF-4C with photo, infrared, side-looking airborne radar, and tactical electronic reconnaissance capabilities. The Navy uses the F-14 Tactical Air Reconnaissance Pod System (TARPS), and the Marines employ the RF-4B in a similar role. Planned improvements to strategic and tactical systems provide for additional TR-1 and U-2R aircraft and installation of the Advanced Synthetic Aperture Radar System (ASARS). RF-4 enhancements include electro-optical sensor, recorders, data link and a ground terminal program for receipt, exploitation, and dissemination of collected information. Also included are the Navy's conversion in lieu of procurement of the EP-3E, and the carrier battle group passive horizon extension system.



SR-71

TR-1

F-14 WITH
TACTICAL AIR RECONNAISSANCE POD SYSTEM

The P-3 aircraft provides primary ocean surveillance for both surface and subsurface targets. Acoustic ocean surveillance of submarine activity is provided by the Sound Underwater Surveillance System (SOSUS) networks.

The collection, processing, and dissemination of tactical intelligence will benefit from developments in high-capacity data links, improved sensors and related processors, e.g., the Air Force's Tactical Reconnaissance System, the Army-Air Force Joint Surveillance and Target Attack Radar System (JSTARS), and the Navy's Ocean Surveillance Information System Baseline Upgrade. All-source fusion centers are also under development. The Advanced Deployable Imagery Support System (ADDISS) and Improved GUARDRAIL, for example, will eventually provide tactical commanders the means to assimilate information quickly from national and tactical sensor systems. The Commanders' Tactical Terminal, now under development, will facilitate dissemination of signals intelligence data.

Command and Control

Effective command and control is essential to the successful employment of military forces. Command and control systems are made up of people, equipment, and information systems designed to assist in planning, directing, and controlling military forces. Improvements in secure, interoperable, and survivable command and control systems for tactical forces have traditionally lagged behind those provided strategic forces.

Command, control, and communications (C^3) interoperability has been a primary reason for successful exercises that US forces conduct with the forces of allied and friendly nations; coordination of operations could not be achieved without it. Combined C^3 interoperability provides the leverage for forces of the United States and other countries to be an effective counterweight to larger forces of the Soviet Union. Persistent attention is required to improve C^3 interoperability in the face of technological change and widely varying degrees of C^3 system modernization among all friendly forces.

The Joint Tactical Information Distribution System (JTIDS), currently in development and production, will significantly improve the commander's ability to exchange tactical information using digital communications among tactical units. Tactical air communications are also being upgraded with antijam

U.S. AIR FORCE

E-3A SENTRY

systems, such as HAVE QUICK. Communications for tactical commanders will be improved by such programs as the Ground Mobile Forces Satellite Communications Program, the fielding of the single channel ground-airborne radio system (SINCGARS), and the implementation of message standards for Joint Interoperability of Tactical Command and Control Systems (JINTACCS).

The Position Location Reporting System (PLRS), a joint Army-Marine Corps command and control program, will improve the ability of tactical commanders to locate and identify deployed friendly forces. JSTARS, which is being developed to improve target acquisition and weapons placement and battle management, will complement PLRS.

Effective Defense-wide communications systems are essential for the command and control of strategic and tactical forces, as well as their logistic, intelligence, navigation, and meteorological support. The Defense Communications System (DCS) provides US military forces with worldwide voice, data, and teletype services through networks of government and commercial facilities. In response to increased requirements, DCS subsystems will undergo changes that enhance survivability, expand transmission security, improve interoperability, and increase flexibility. Specific improvements include an increase in the number of switching systems and transmission paths, addition of physical and transmission security features, and development of countermeasures to protect network control facilities against computer manipulation.

A Secure Voice Improvement Program (SVIP) is being implemented to employ encryption techniques and technology compatible with the Civil Federal Secure Telephone Service and a secure telephone unit developed by the National Security Agency. Interoperability between the DCS and other military secure networks will be accomplished by facilities being developed under the SVIP.

Guidelines for increasing the survivability and interoperability of DOD telecommunications systems are being developed. The Worldwide Digital System Architecture (WWDSA) establishes a framework for DOD communications to ensure that voice and data networks operate into the next century. The DOD message system is being modernized for the 1990s by the Integrated AUTODIN System Architecture (IASA) which includes the long-haul trunking system, Defense Data Network (DDN), currently being deployed; the message entry system, Inter-Service/Agency Automated Message Processing Exchange (I-S/A AMPE), currently under contract; and a multi-level security device for the transmission network, currently under development. The Defense Switched Network (DSN) will digitize and improve command and control capabilities of the AUTOVON in a related program.

The WWMCCS Information System (WIS) is being developed to modernize the current WWMCCS Standard Automatic Data Processing System and provide improvements in reliability, accuracy, and responsiveness. The main goal of this modernization is to provide timely, reliable, and responsive command and control information to the NCA.

The Joint Operation Planning and Execution System (JOPES) is the conventional war planning and execution system of the future. It consists of doctrine, policies, reporting structures, and procedures supported by information processing systems working together to improve capabilities to monitor, plan, and execute mobilization, deployment, employment, and sustainment during peace, crisis, and war. JOPES requirements are being developed and phased into operation over several years using the expanded capabilities of WIS and other related ADP programs.

Electronic Warfare (EW) and Command, Control, and Communications Countermeasures (C^3CM)

EW systems are an integral part of the total capability of US forces to fight and survive on a modern battlefield. EW systems maximize the effectiveness of friendly forces while reducing enemy capability to use the electromagnetic spectrum. The worldwide threat to US forces is extremely diverse, encompassing the entire range of frequencies from extremely low frequency communication to laser weapons developments. The rapid introduction of new hostile weapon systems and incorporation of advanced technologies significantly stress existing US forces' EW capabilities. Our EW capabilities must keep pace with this threat by introducing new state-of-the-art systems and improving existing systems as practical. A DOD Electronic Warfare Plan was prepared under the direction of the Joint Requirements Management Board (JRMB) and approved by the JCS in August 1985. This plan describes the collective efforts of the Services to prepare and program for US EW missions and provides a roadmap to increase the use of joint and common programs. Continued deployment of systems such as the EF-111 and the EC-130H (COMPASS CALL) is necessary to provide US forces with adequate EW capability.

EF-111 ELECTRONIC WARFARE AIRCRAFT

C³CM remains an essential element of modern combat capability. It is a capability through which US forces destroy, disrupt, or otherwise degrade the enemy's ability to control its forces effectively, while protecting friendly command and control. The Soviets' capability to reduce our C³ effectiveness is formidable. On the modern battlefield, headquarters staff, field, and tactical commanders must emphasize C³CM strategy and training to effectively translate existing battlefield resources (men, munitions, and weapon systems) into usable combat power.

EA-6B ELECTRONIC WARFARE AIRCRAFT

Joint Perspective

Role of the JCS

The joint system, independent of the Services, has evolved since 1947 to command worldwide US military forces. The role of the JCS is determined by statute and by amplifying directives of the Secretary of Defense. These functions can be summarized in two general responsibilities: (1) to serve as the principal military advisors to the President and the Secretary of Defense; and (2) to prepare strategic plans and provide for the strategic direction of the armed forces, including the direction of operations conducted by the CINCs. The operational chain of command runs from the President to the Secretary of Defense through the JCS to the CINCs. The JCS have no command authority, but in effect provide a channel of communication between the NCA and the CINCs.

Role of the Commanders in Chief

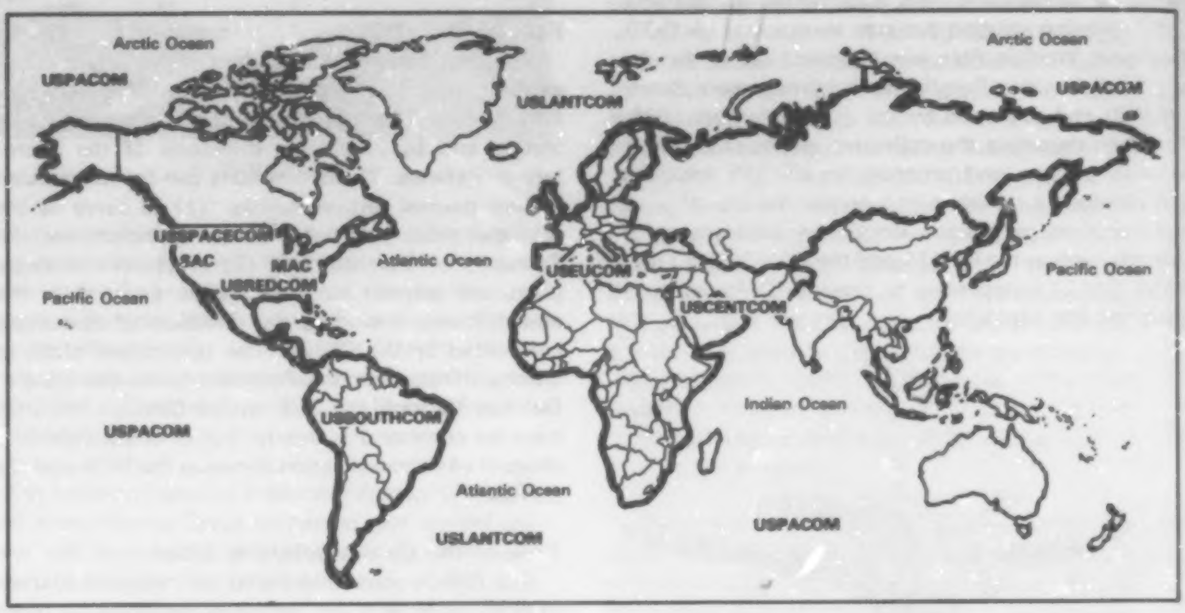
The CINCs command the forces assigned to them in both peace and war and have regionally or functionally oriented responsibilities. The major commands are designated as either unified or specified. Unified commands are composed of major forces from two or more Services and have a broad continuing mission to plan and, if necessary, execute military operations in support of US national security objectives. A specified command is one which has a broad continuing functional mission and is usually composed of forces from one Service. Figure IV-30 identifies the unified and specified commands and their areas of responsibility.

The Services are charged with providing forces to the CINCs and supporting those forces. Although the CINCs are not directly responsible for organizing, training, and equipping forces, which are Service responsibilities, they are playing an expanding role by influencing these factors through active participation in the DOD resource process. The JCS, together with the Services and CINCs, have implemented several joint programs with the goal of increased Service interoperability, improved joint warfighting capability, and more efficient management of limited resources.

Joint Doctrine

Military doctrine provides the fundamental principles by which forces are employed. Joint doctrine

Commanders' Area of Responsibility



As of 1 January 1986

FIGURE IV-30

provides the foundation of which multi-Service forces are employed in support of national objectives. This perspective provides a framework for the development of solutions to facilitate superior joint warfighting capabilities. Emphasizing interoperability makes possible many improvements at relatively low costs with the potential to provide tremendous operational payoffs. Gains in each area increase US capability to successfully conduct joint operations, in the broadest sense of interoperability, to counter the global threat.

The JCS have continued to guide the process of joint doctrine development and Service interoperability. US Commander in Chief, Atlantic Command (USCINCLANT) has been tasked to lead the development of doctrine for strategic and tactical air support of maritime operations. US Commander in Chief, Europe (USCINCEUR) is leading the development of doctrine for theater counter-air and follow-on forces attack. JSOA is developing joint doctrine for psychological operations. The common thread of these initiatives has been the recognition that the interoperability of warfighting forces is essential to conducting successful joint operations.

Combined Doctrine

Since the United States is a member of many military alliances, all Services must be prepared to integrate their forces with those of our allies during times of conflict. Combined doctrine has been developed through allied agencies to improve rationalization, standardization, and interoperability (RSI). Although there has been improvement in this area over the last several years, much remains to be done. The European Theater remains the focus of this activity, with NATO agencies working to meet the challenge of standardization among its member nations.

Joint Force Development Process

The Joint Force Development Process (JFDP) was established in 1984 by the Army and Air Force as an initiative designed to field the most effective, affordable forces in support of air-land combat operations. Of the original 31 initiatives, 16 have been implemented and 4 new initiatives addressed. Additionally, the Navy and Marine Corps have joined the cooperative effort with full participation in four initiatives and informal involvement in seven others. US Commander in Chief, Readiness Command (USCINCRED) has been tasked with responsibility for developing joint tactics, techniques, and procedures (JTTP) and with evaluating the Army/Air Force JFDP.

The Air Force and Navy have also undertaken a number of joint initiatives outside the JFDP in order to enhance combined effectiveness in maritime operations and operations ashore. Air Force/Navy efforts continue to be directed toward increased joint exercise and training, billet exchanges, and research and development.

Joint Resource Assessment

The Strategic Plans and Resource Analysis Agency (SPRAA) provides JCS military analyses and recommendations concerning the impact of defense programs and budget proposals on the capabilities of the force in the field. SPRAA is the Organization of the Joint Chiefs of Staff (OJCS) focal point for examining the resource implications of joint planning issues.

Joint Program Management

Since 1984, the JRMB has been charged with examining potential joint military requirements; identifying, evaluating, and selecting candidates for joint development of cross-Service requirements and management issues; and resolving Service issues that arise after a joint program has been initiated.

In summary, the JCS, the Services, and the CINCs have focused on the global nature of US national security objectives; the relationship of both nuclear and conventional forces to the strategy of deterrence; and the necessity to plan, size, equip, and train forces as they would be used in war.

CHAPTER V. TOPICS OF SPECIAL INTEREST

INTRODUCTION

The preceding chapters addressed US security requirements and major military forces. This chapter outlines the status of arms reduction talks and discusses military space activities, security assistance, defense manpower, international terrorism, DOD support to drug interdiction, and European troop strength.

ARMS NEGOTIATIONS

The United States participates in bilateral and multilateral negotiations on arms control to protect US and allied security interests, build global stability, and promote favorable international relationships. These negotiations are an integral part of the US national security strategy. Equitable and effectively verifiable arms reduction agreements and related negotiations can contribute to security at reduced force levels. Arms control cannot however substitute for necessary force modernization; both efforts are mutually reinforcing elements of our national security and contribute significantly to the enhancement of stability and deterrence.

Any agreement is only as good as the willingness of the signatories to comply with the obligations assumed. Soviet noncompliance with several agreements to which both sides have committed themselves is of great concern and must cease. The Joint Chiefs of Staff continue to take an active role in the monitoring process, subsequent development of judgments concerning Soviet compliance, development of effective verification as a keystone of future agreements, and development of US defense programs to offset the military risk resulting from current Soviet noncompliance.

Nuclear and Space Talks

The United States and Soviet Union were involved in strategic nuclear, intermediate-range nuclear, and antisatellite negotiations prior to 1985, but the last of these negotiations ended when Round V of the Strategic Arms Reduction Talks (START) adjourned in December 1983 without Soviet agreement on a resumption date.

In January 1985, the two countries jointly announced agreement to begin new negotiations on a complex of questions concerning space and nuclear arms, both strategic and intermediate-range. The purpose of the Nuclear and Space Talks (NST), which commenced in Geneva in March 1985, is to reach agreements aimed at reducing nuclear arms and strengthening strategic stability. Following their November 1985 meeting in Geneva, President Reagan and Secretary General Gorbachev agreed to accelerate work at the NST and called for early progress, particularly in areas where there is common ground. Progress in the three negotiating groups of the NST is outlined in the following paragraphs.

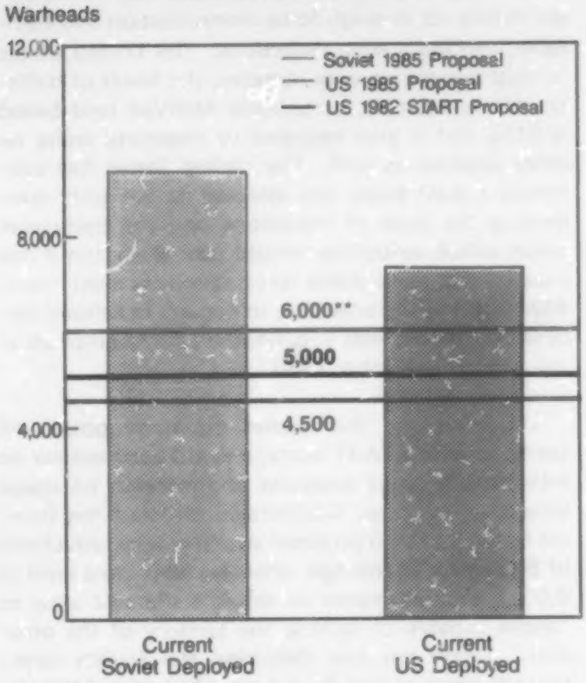
Strategic Arms

The primary objective of the United States in the negotiating group on strategic arms is to achieve a stable and verifiable balance at significantly reduced levels of nuclear forces. The US approach to strategic arms recognizes the need to redress the current strategic imbalance through force modernization and equitable, verifiable arms reductions. The United States is most concerned with reducing the levels of ballistic missile systems, particularly MIRVed land-based ICBMs, but is also prepared to negotiate limits on other systems as well. The United States has submitted a draft treaty and stressed its flexibility concerning the pace of reductions and the framework under which reductions would take place, but it has insisted that more stable force structures must result. Although initially unwilling to engage in serious discussions, the Soviets submitted a counterproposal at the end of September 1985.

Unfortunately, the Soviet counterproposal still seems to hold START hostage to US concessions on intermediate-range weapons and research on space defensive weapons. Additionally, although the Soviets stated that their proposal would require reductions of 50 percent in strategic offensive arms (to a level of 6,000), they attempted to redefine strategic arms as "those capable of striking the territory of the other side." Under this new definition, the Soviets stated that US forces to be reduced would consist of ICBMs, SLBMs, heavy bombers, medium-range missiles in Europe, "medium-radius-of-action" aircraft in Europe and Asia, and carrier-based aircraft. In contrast, the Soviet Union would only be required to reduce its ICBMs, SLBMs, and heavy bombers.

After study of the 1985 Soviet proposal, on 1 November 1985 the United States submitted a new proposal that calls for more drastic reductions in ballistic missile warheads than the 1982 US START proposal (to a level of 4,500 vs 5,000), but makes clear that the Soviet attempt to redefine strategic arms is unacceptable. The United States also informed the Soviet Union that the 1982 US START proposal "remains on the table" for Soviet consideration. Thus, although both parties have agreed to the principle of drastic reductions in strategic offensive arms, difficult negotiations remain ahead in applying that principle in an equitable and verifiable fashion to permit agreement. Figure V-1 illustrates the various proposals against a backdrop of numbers of nuclear ballistic warheads currently deployed by both sides.

Ballistic Missile Warhead Reductions*



* Numbers are rounded
** Includes many nonstrategic US weapons

As of 1 January 1986 *FIGURE V-1*

To provide the Soviet Union the opportunity to join the United States in establishing an interim framework of truly mutual restraint, the President declared in June 1985 that the United States would continue to refrain from undercutting existing strategic arms agreements, to the extent that the Soviet Union exercises comparable restraint, corrects its noncompliance, and actively pursues arms reduction agreements in the Nuclear and Space Talks in Geneva. To provide adequate time for the Soviets to demonstrate by their actions a commitment to join the United States in an interim framework of the true mutual restraint, the President directed the dismantlement of an existing POSEIDON SSBN in compensation for the ALASKA, a TRIDENT SSBN which began its sea trials in September 1985. The President will assess the overall situation as similar milestones occur and will make a final determination of the US courses of action on a case-by-case basis.

Intermediate-Range Nuclear Forces

The United States initiated and now continues intermediate-range nuclear forces (INF) negotiations as a part of NATO's 1979 decision to pursue a dual-track policy of INF modernization and negotiated arms reductions. Toward this end the United States, in close consultation with its NATO Allies, made a series of proposals designed to meet the security concerns of both NATO and the Soviet Union. These include a proposal for the complete elimination of US and Soviet longer range intermediate-range nuclear forces (LRINF) and, as an interim measure toward this goal, a proposal for equal global ceilings at the lowest possible level for LRINF missile warheads of both sides. US INF negotiators have stressed the flexibility inherent in these proposals and have outlined initiatives taken by the United States to meet special Soviet concerns. In the context of an agreement providing the right to equal global levels of US and Soviet LRINF missile warheads, the United States is prepared to consider a commitment not to offset the entire worldwide LRINF missile deployment of the Soviet Union by deployments in Europe, while retaining the right to such deployments elsewhere. The United States is also prepared to apportion its reductions between PERSHING IIs and GLCMs in an appropriate manner, and to consider equal limits on specific types of US and Soviet land-based aircraft.

The initial Soviet proposal in the current INF negotiations was limited until recently to a call for a LRINF missile moratorium. This provides that, in return for a cessation in US LRINF missile deployments to Europe, the Soviet Union would halt its "countermeasures" deployments begun when PERSHING II missiles first arrived in the Federal Republic of Germany (FRG) in November 1983. The Soviet Union has also spelled out a "reduction proposal" that was essentially a reiteration and compilation of previously unacceptable Soviet offers. A key element of this Soviet reduction proposal eliminates US LRINF missiles in Europe but permits the Soviets to retain a substantial number of SS-20 missiles. This is consistent with previous Soviet proposals.

As discussed in the preceding section on strategic arms, the Soviets made another proposal which, for all practical purposes, would treat US INF systems in the context of strategic arms negotiations while ignoring Soviet INF systems. In this "50 percent reduction proposal," US European-based PERSHING IIs and GLCMs, as well as all US sea-based and overseas land-based medium-radius-of-action aircraft, would be included in the global total for strategic nuclear weapons. Under other provisions US PERSHING IIs and GLCMs would be banned. On the other hand, Soviet medium-range missiles and aircraft would not be included and thus not limited. In an attempt to halt NATO modernization plans, the Soviets also called for a stop to US and Soviet medium-range missile deployments in Europe, which would codify the present overwhelming Soviet advantage in this area.

In early October 1985, the Soviets presented a proposal for an interim accord involving INF. The Soviets again called for both sides to freeze deployment of "medium-range" missiles in Europe. This would be followed by a stage-by-stage reduction of medium-range missiles until Soviet systems in Europe equal an aggregate number of US and all French and British nuclear missile forces. In a subsequent second stage of reductions, all US LRINF missiles in Europe would be eliminated while the Soviets would retain a right to match French and British nuclear missile forces with LRINF missile systems. The Soviets also offered a freeze of SS-20s in the eastern portion of the Soviet Union as long as there is no change in the "strategic situation" in the Asian region. The Soviet bottom line remains the same — zero US LRINF missiles in Europe against a significant worldwide SS-20 force.

Neither of the two Soviet proposals demonstrates movement from the 1983 Soviet position. After considering these proposals, the United States presented a new proposal on 1 November 1985 that clarified the unacceptability of the Soviet redefinition of strategic arms. The United States still prefers total elimination of LRINF missiles but, as an interim step, the US proposal calls for equal global LRINF missile warhead limits at a reduced level. The outcome would involve an equal European subceiling on LRINF missile launchers (140). The Soviets would also be required to reduce LRINF missile launchers in Asia proportionately to the reductions taken in Europe. Appropriate constraints would also be applied to shorter range INF missiles.

The United States continues to seek, as a step toward the eventual elimination of the entire class of LRINF missiles, an acceptable outcome in the negotiations at Geneva that would provide equal, effectively verifiable, and significantly reduced global levels of LRINF missile warheads.

Defense and Space

While the United States and Soviet Union held three rounds of antisatellite negotiations during the 1978-79 period, the current defense and space negotiations, which began in March 1985, have a much broader scope. In the first two rounds of the Geneva negotiations, the US approach focused on the need to address the instability that exists in the current strategic situation. Stressing the importance of reversing the erosion of the ABM Treaty and correcting Soviet actions that violate existing arms control agreements, the United States explained its view of the relationship between offensive and defensive forces, the potential contribution of defensive forces to our mutual security, and — if new defensive technologies prove feasible — the US desire for a stable and cooperative transition toward increased reliance on defenses. The Soviet Union, in an effort to stop the US SDI research program, proposed and continues to demand a comprehensive ban on research, development, testing, and deployment of what the Soviets call "space-strike arms." They continue to make US acceptance of such a ban a precondition for agreement on offensive nuclear arms reductions. The United States responded that research is not prohibited by the ABM Treaty and that a ban on SDI research is unacceptable since it would be neither verifiable nor desirable.

At the beginning of Round Three of the NST which began in mid-September 1985, the Soviets, in connection with their first nuclear arms reduction proposal of the current talks, reiterated their proposal for a ban on development (including scientific research), testing, and deployment of space-strike arms. The Soviet proposal strongly favors their objectives by linking a ban on SDI-related weapon systems development, testing, and deployment to substantial strategic nuclear arms reductions and at the same time limiting the US strategic modernization process. Although not new in principle, it has been formally presented at Geneva and represents a new starting point for continued negotiations.

During Round Three, the United States proposed an "open laboratories" initiative, in which both sides would commit to provide, on a regular basis, briefings on each other's strategic defense research efforts and opportunities to visit associated research facilities. This would permit Soviet experts to see first hand that SDI is not intended to serve offensive purposes. American scientists would be allowed to visit comparable facilities of the Soviet strategic defensive program, which has been involved in much more than research for many years. The United States also made it clear to the Soviets that it is committed to pursue the SDI program as permitted by, and in full compliance with, the ABM Treaty.

Mutual and Balanced Force Reductions

The long-standing negotiations on mutual and balanced force reductions (MBFR) between NATO and the Warsaw Pact have the objective of achieving a more stable relationship between East and West and the strengthening of peace and security in Europe through mutual reductions of forces and armaments with undiminished security for both alliances. Draft treaties have been submitted by both sides, but they remain far apart on two fundamental issues — initial force levels and verification of manpower. Eastern intransigence regarding the need for agreement on initial force levels has made it questionable whether reductions would result in parity. In early 1984, the United States and its allies proposed a modification to the 1982 Western draft treaty to break the impasse on initial force levels. This proposal would require data only on combat and combat support forces within an acceptable range of Western estimates prior to treaty signature.

The East's counterproposal, presented in February 1985, called for initial US and Soviet reductions of combat and combat support forces without linkage to follow-on reductions. The problem with the latest Eastern proposal is the absence of provisions to satisfy Western concerns about initial data and verification of residual forces.

Picking up on the East's counterproposal, in December 1985, the West made a concession that offered to delay the data requirement in exchange for Eastern acceptance of an enhanced verification package in a time-limited, phase-one agreement. The West would reduce US ground forces by 5,000 in exchange for a Soviet ground force reduction of 11,500. Because of this lessened initial requirement, the West will press for a strengthened verification package.

Conference on Disarmament in Europe

The Conference on Confidence- and Security-Building Measures and Disarmament in Europe, commonly known as the Conference on Disarmament in Europe (CDE), began in early 1984. The conference was mandated by the Conference on Security and Cooperation in Europe (CSCE), and all 35 CSCE participating states are taking part. The CDE mandate is to develop confidence- and security-building measures (CSBMs) in Europe that will clarify intentions, reduce the chance of miscalculation during crises, and reduce the risk of surprise attack. Proposals have been put forward by NATO, the Soviet Union, and other parties. The NATO proposal has focused on militarily significant and verifiable CSBMs. The Soviet proposal has emphasized politically oriented declaratory measures and more recently, military CSBMs that do not conform to the provisions of the CDE mandate. To date, progress has been slow and primarily procedural, but agreement on a working structure has led to a more detailed review of proposals. The CDE must report back to the next CSCE review conference in Vienna in late 1986.

Other Multilateral Negotiations

Representatives of the Joint Chiefs of Staff participate in other multilateral fora, including the 40-nation Conference on Disarmament (CD). High on the CD agenda are the achievement of a nuclear comprehensive test ban (CTB) and a comprehensive chemical weapons ban. As a result of the suspension of negotiations among the United States, United Kingdom, and Soviet Union on a CTB, some members favor negotiating a comprehensive nuclear test ban within the CD. Such testing, however, remains essential to the maintenance of a credible nuclear deterrent. Therefore, the long-term goal of a CTB must continue to be viewed in the context of broad, deep, and verifiable arms reductions; improved verification capabilities; expanded confidence-building measures; and maintenance of a modern, effective deterrent force.

In 1984, the United States proposed a draft treaty on a total chemical weapons ban in the Conference on Disarmament. Soviet and surrogate violations of the Geneva Protocol of 1925 and the Biological and Toxin Weapons Convention of 1972 justify continued US insistence on effective verification of a total ban of chemical weapons. The Soviets and some other nations consider verification and compliance provisions of the US draft treaty as intrusive and unacceptable. The Soviets hold that verification should be accomplished through national technical means and self-inspection. Given these differences and the fact that an unverifiable ban would seriously endanger US and allied security, the prospects for early achievement of a chemical weapons ban are not good. In the interim period until a verifiable ban can be concluded, the United States must establish and maintain an effective chemical retaliatory capability to deter chemical attack and provide an incentive for the Soviets to negotiate seriously.

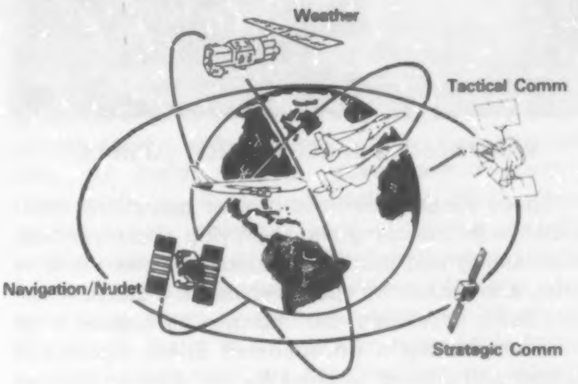
Verification

In each of the negotiating fora, the United States has stressed the critical importance of effective verification as a keystone of any bilateral or multilateral arms control agreement. In view of past and current Soviet violations of arms control agreements, the United States has also stressed that the Soviet Union reverse its current noncompliant behavior and practice full compliance in the future. While effective verification regimes cannot ensure compliance, they can help the United States to better monitor Soviet activities and eliminate potential sources of ambiguity. In this fashion, effective verification regimes can help to ensure that military risks are acceptable. Toward this end, effective verification of numerical limits, qualitative constraints, and limits on the production and storage of nuclear and chemical munitions will require comprehensive cooperative measures for all parties involved. Without an effective verification regime, an arms control agreement will serve only to limit US options and programs without providing assurance that other parties have been similarly constrained.

MILITARY SPACE ACTIVITIES

Recognizing the increasing role of space in supporting national interests, the United States has developed a comprehensive space policy for both civil and military uses. Space-based systems have clearly demonstrated their value in support of the planning and execution of US military operations, thereby contributing to deterrent and defense capabilities. Figure V-2 depicts some of the current military uses of space. The NCA and US military forces depend heavily upon space systems in peacetime, crisis, and conflict.

Military Employment of Space Assets



As of 1 January 1986

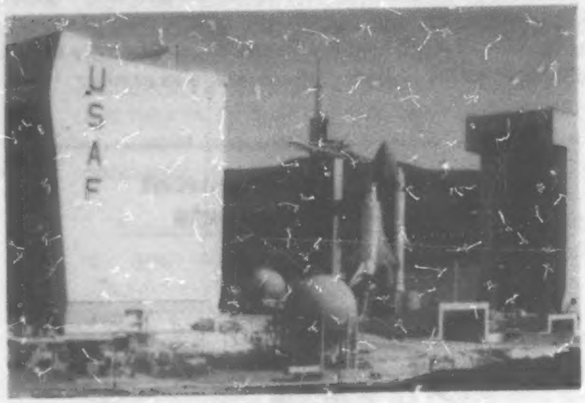
FIGURE V-2

Operations

Both the United States and the Soviet Union depend on space systems for operational support, the United States more so than the Soviet Union. Continuing technical advances by the Soviets could lead to the development of improved space-based weaponry which would place critical US satellite systems at greater risk. The United States must be able to counter or nullify the effectiveness of enemy space systems and ensure that US space assets can function in a hostile environment. An ASAT system will be key to the development of required US space defense capabilities in the near term.

Operational Support

Operational support activities include communications, terrestrial surveillance, navigation and positioning, meteorology, oceanography, mapping, and search and rescue. Systems now operational or under development to perform these activities include MILSTAR; Fleet, Air Force, Leased, and Defense Satellite Communication Systems; Defense Meteorological Satellite Program; Navy Remote Ocean Sensing System; Global Positioning System; and Nuclear Detonation Detection System.



VANDENBERG SPACE LAUNCH COMPLEX

Space support activities involve operations associated with launching and deploying space vehicles, maintaining and sustaining space vehicles while in orbit, and recovering space vehicles if required. Centers being developed and improved to support such missions include a Consolidated Space Operations Center and ground facilities for the Satellite Control Facility and its associated ground stations. The United States is developing the capability to process information on board spacecraft and then perform the necessary data relay. Systems being developed to deploy satellites include new upper stages and expendable launch vehicles. Systems used or under development to transfer satellites from a low orbit to high orbit include the Inertial Upper Stage, the Payload Assist Module, and the CENTAUR Upper Stage. The United States is also pursuing an assured launch capability by developing a complementary expendable launch vehicle which would serve as a hedge against unforeseen technical and operational problems affecting the Space Transportation System, and provide an alternate means of supporting satellite launches during crisis situations. At Vandenberg Air Force Base the Shuttle Launch Complex was officially dedicated and declared operational in October 1985. Plans are proceeding for the first Vandenberg shuttle mission in March 1986.

Soviet Space Efforts

The Soviets continue their vigorous space efforts. The Soviets still lag behind the United States in many important areas of space technology, but lead in directed energy weapon technology, space medicine, effects of weightlessness, and other human endurance areas. The Soviets' annual space budget growth rate of 15 percent has exceeded their overall military budget growth rate in recent years. Most of their space effort is purely military, and much of the remainder involves joint civil-military programs. The Soviet logistic base (which includes launch pads, mission control sites, and space-support ships) is the largest in the world. The Soviets also have a large inventory of satellites and launch vehicles. This enables the Soviets to place large numbers of satellites in orbit quickly. The Soviets have sustained an average annual launch rate of approximately 100 space systems during the past few years. This indicates a significant production capability. Launch rate differences between the United States and the Soviet Union can be explained partially by the Soviet need to replace satellites more frequently because of the shorter average lifetime of its satellites. However, the Soviet launch rate also provides a very robust launch-and-replace capability in crisis and conflict situations. The Soviets continue to make important technical advances in their satellite programs. Figure V-3 shows a summary of US and Soviet space activity for 1984 and 1985.

US–Soviet Space Activity Summary

	1984	1985
Number of Launches	[redacted]	[redacted]
Satellite Payloads*	[redacted]	[redacted]

* Numbers rounded

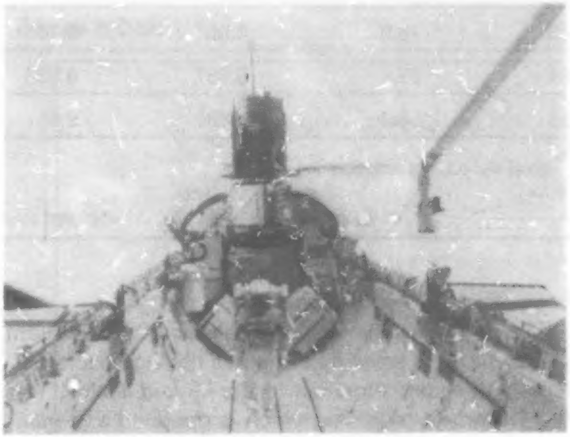
As of 1 January 1986 *FIGURE V–3*

The Soviet Union has maintained its three-to-one margin over the United States in man-days in space. With SALYUT 7 manned for extended periods, the Soviets have already demonstrated the capability to establish a manned space station. Research and development, reconnaissance, operation of weapons and sensors, and other military missions could be performed from such stations. The introduction of a Soviet reusable manned orbital shuttle is expected by the late 1980s. The US Space Transportation System has been operational since 1981.

The Soviets are currently developing two new launch systems. One system will support the manned orbital shuttle and the other may support a manned space plane. The Soviets are also continuing to improve their space-based reconnaissance systems.

Some existing Soviet space assets pose a threat to US satellites and ground forces. The Soviet operational ASAT system is designed to attack low-altitude satellites. Additionally, their ABM and ICBM systems have inherent ASAT capabilities and could augment the coorbital system. Some US satellites may also be vulnerable to interference from jammers or damage from ground-based systems.

Soviet space systems have potential application during crises and situations short of general nuclear war because they provide command authorities with order of battle, warning, target location, and battle damage assessment information.



SPACE SHUTTLE OPERATIONS

US Space Command

The Soviet emphasis on space as a warfighting medium and the increasing US reliance on space systems caused the United States to reevaluate its military command structure supporting space operations. This resulted in the formation of a new unified command.

The establishment of the US Space Command (USSPACECOM) in September 1985 placed DOD space forces into a single, joint military organization. USSPACECOM enhances the deterrent posture of the United States by providing timely support to the NCA and forces assigned to the CINCs through greater control over space systems in peace, crisis, and war. A direct tie to the NCA through USCINCSPACE ensures that space forces are singly led and prepared to fight as one. The new command is charged with operating and protecting space systems and providing integrated tactical warning and assessment of space, missile, and air attacks on CONUS.

SECURITY ASSISTANCE

Security assistance programs contribute to US national security objectives by assisting allies and friends to meet their defense needs and supporting collective security efforts. Security assistance is an essential element of foreign policy and a cost-effective way to build positive government-to-government relations. By sharing costs and effort, many countries can achieve a level of mutual security unattainable independently. By strengthening US allies and friends, security assistance programs also serve as an economy-of-force measure which allows the United States to concentrate its available forces in areas of greatest threat. For these reasons, security assistance is an integral part of US military strategy.

Security Assistance Objectives

The primary military objectives of security assistance are to assist countries in preserving their independence; promote regional security; help obtain base rights, overseas facilities, and transit rights; ensure access to critical raw materials; and provide a means to expand US influence.

Elements of Security Assistance

The major components of military security assistance are the Foreign Military Sales (FMS) Program, the FMS Credit (FMSCR) Program, the Military Assistance Program (MAP), the International Military Education and Training (IMET) Program, the Economic Support Fund (ESF), and Peacekeeping Operations (PKO).

Foreign Military Sales Program

The FMS Program enables eligible governments to purchase defense equipment, services, and training from the United States on a cash basis. In addition to cash sales, FMSCR has been included in the budget and all loans have been made directly by the US Government to recipient countries instead of through commercial banks. For selected countries, a portion of this credit is available as low interest loans. Approximately 84 percent of the proposed DOD FY 1987 military security assistance budget would be allocated to FMSCR.

SECURITY ASSISTANCE TRAINING

The Military Assistance Program

This grant program provides an account for designated countries that may be used to obtain defense equipment and selected services. MAP funds allow certain economically disadvantaged countries to improve their security and ability to contribute to collective defense. The DOD FY 1987 MAP proposal represents about 15 percent of the total proposed budget for security assistance and a sizeable increase over funds appropriated for MAP in FY 1986. This increase is intended to allow the United States to assist certain needy countries by further improving their security and ability to contribute to collective defense.

The International Military Education and Training Program

The IMET program provides training to foreign military and certain foreign government-sponsored civilians on a grant basis. IMET training consists of formal courses, orientation tours, and on-the-job training. This program has greatly expanded US contacts with foreign governments, whose representatives are trained by US personnel. IMET students frequently assume leadership and management roles in their armed forces and elsewhere in their governments.

Over recent years, IMET expenditures represented about 1 percent of the total military security assistance budget. Figure V-4 depicts expenditures and numbers of students who have attended US military-sponsored training under IMET over the past 6 years. Since FY 1984, modernization programs have required that an increased percentage of IMET funds be used to support the training of pilots and similarly skilled technical personnel. This requirement has resulted in a higher average cost per student. This program enhances collective defense at relatively low cost to the United States by providing urgently required training to foreign forces.

Worldwide IMET Expenditures

Students Trained in US

FY	*Expenditures* (in millions)*	*Students Trained*	*Cost Per Student*
80	$24.9	3,545	$6,996
81	28.7	4,836	5,935
82	46.2	6,317	7,314
83	46.0	6,861	6,705
84	52.8	5,967	8,855
85	56.2	5,880	9,557

* Actual dollars/not adjusted for inflation

As of 1 January 1986 *FIGURE V-4*

Economic Support Fund

The ESF provides economic assistance on a grant or loan basis to selected countries having special political and security interest to the United States. This very important program, which is operated and managed by the State Department, is designed to help correct the economic problems of countries by funding and encouraging creation of growth industries. In many instances grievances leading to insurrection and low-intensity conflict can be averted through economic growth.

Peacekeeping Operations

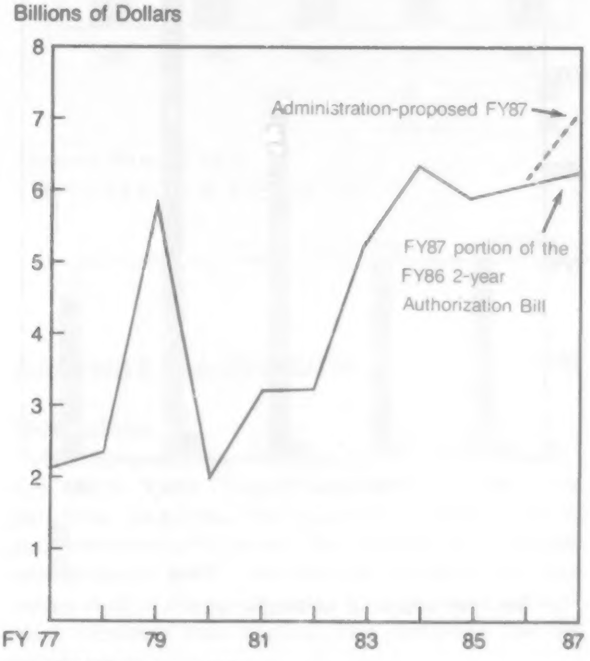
Peacekeeping Operations enable the United States to participate in multinational operations necessary to help prevent international conflicts. PKO were established to provide for that portion of security assistance devoted to programs such as the Multinational Force and Observers and the US contribution to UN Forces Cyprus.

Security Assistance Initiatives

Over the past few years, legislative initiatives have been introduced to increase the effectiveness of the security assistance program. These initiatives were designed to provide more flexibility in planning, production, and delivery of military equipment thus allowing the United States to be more responsive to nations suddenly threatened by overt hostilities, e.g., Chad, Lebanon, and El Salvador. One initiative increased the capitalization level for the Special Defense Acquisition Fund (SDAF), which was established to improve US responsiveness to anticipated FMS needs by allowing advance orders of high-demand items that have long leadtime procurement schedules. This has allowed more timely acquisition of these items.

Security Assistance Budget*

(Current $)

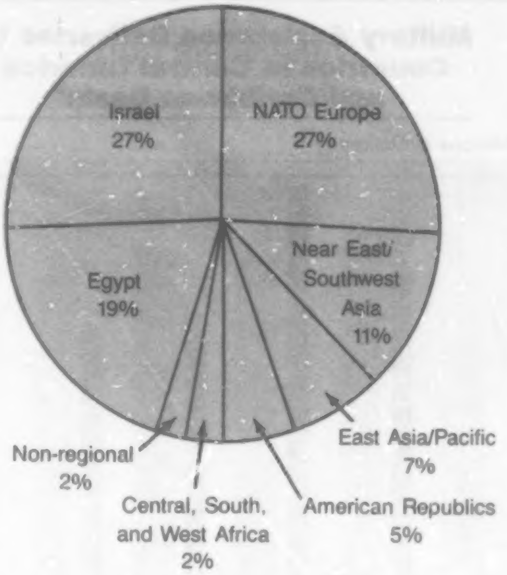


* FMSCR, IMET, and MAP

As of 1 January 1986 *FIGURE V-5*

The proposed FY 1987 security assistance budget has been developed to meet requirements in areas of the Third World where Soviet presence has increased (Figure V-5). As with prior years, the FY 1987 security assistance budget proposal reflects a balanced consideration of the needs of friends, allies, and US objectives (Figure V-6).

FY 1987 Security Assistance Strategic Apportionment*



* Estimated Administration proposal (inlcudes FMSCR, IMET, and MAP)

As of 1 January 1986 *FIGURE V-6*

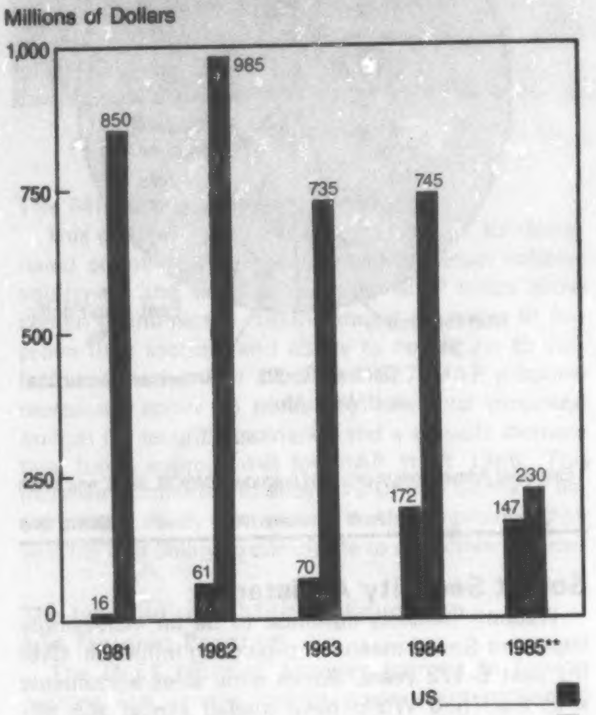
Soviet Security Assistance

Weapon transfers continue to be an increasingly important Soviet means of projecting influence. Over the past 5-1/2 years, Soviet arms sales agreements with the Third World have totaled almost $55 billion. Although Soviet arms agreements are sometimes directed toward disrupting regional stability, recipients have been attracted by favorable financial terms, quick delivery, and, in some cases, advanced weaponry. In recent years, the sale of military equipment has become a more important source of hard currency and commodities for the Soviet Union. In several instances, Soviet weapon transfers have provided a means of acquiring base access rights abroad. Weapon transfers also provide an entree for Soviet advisors into the recipient's military establishment, allowing them to exert influence over local leaders and policies through control of training, maintenance and spare parts, and the sale of newer equipment.

Since 1955, nearly 80,000 military personnel from less-developed countries have been trained in the Soviet Union and Eastern Europe. In 1985, approximately 19,000 Soviet military advisors and technicians were stationed in nearly 30 non-Warsaw Pact countries where they played a central role in organizing, training, and influencing client armed forces.

The Soviet Union provides a significant amount of military aid to countries in Central America and the Caribbean Basin (Figure V-7), as well as Africa (Figure V-8). The Soviets view the Middle East, Northern Africa, and Southwest Asia as regions of great strategic importance and have maintained an especially high level of military assistance in those regions (Figure V-9). These figures compare Soviet military assistance deliveries with US programs.

Military Assistance Deliveries to Countries in Central America and Caribbean Basin*



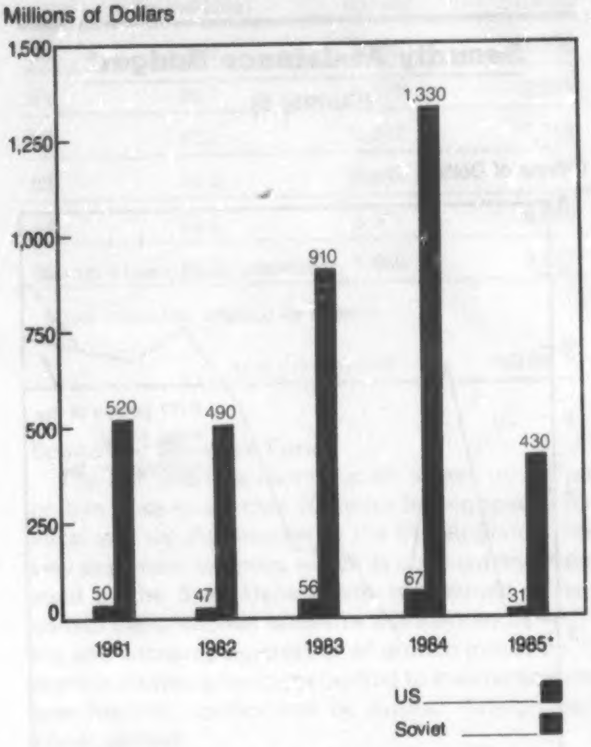
* Does not include Mexico and Venezuela

** Deliveries through 30 September 1985

As of 1 January 1986

FIGURE V-7

Military Assistance Deliveries to Countries in Central, South and West Africa

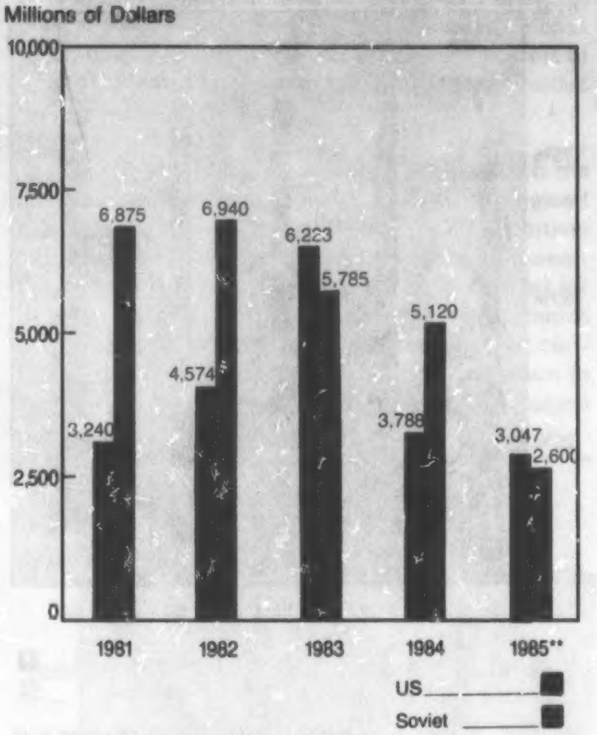


* Deliveries through 30 September 1985

As of 1 January 1986

FIGURE V-8

Military Assistance Deliveries to Countries in Middle East, North Africa, and Southwest Asia*



* Includes Israel and Egypt

** Deliveries through 30 September 1985

As of 1 January 1986 *FIGURE V-9*

DEFENSE MANPOWER

Overview

The cornerstone of the US military readiness posture of the Total Force is people. In recent years, personnel readiness has improved markedly across all components; however, the number of uniformed personnel needed to maintain US forces at the necessary level of readiness and to field new weapon systems increased only slightly. The challenge that lies ahead is to preserve and improve upon these gains in readiness.

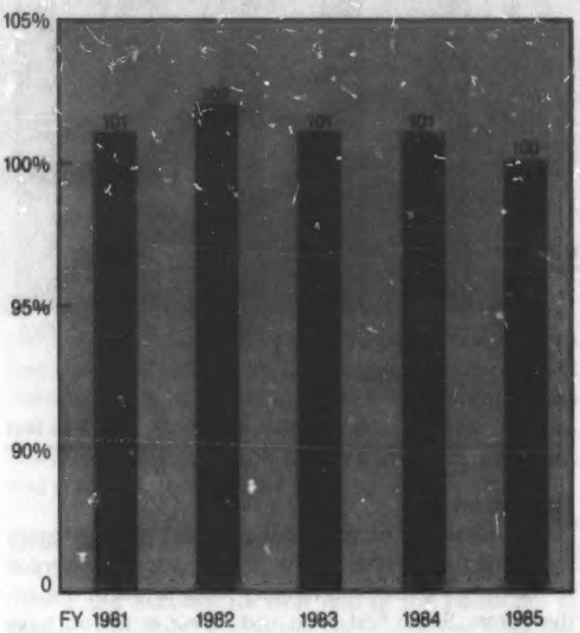
Active Military Manpower

Recruitment

Since FY 1980, the DOD has achieved its overall quantitative (Figure V-10) and qualitative military recruiting requirements. In FY 1985, all Services continued to successfully achieve their accession requirements except for a few high-technology skills that remain difficult to fill. The overall quality of recruits

DOD Recruiting*

(% of Objective Achieved)



* All Services (prior and non-prior service)

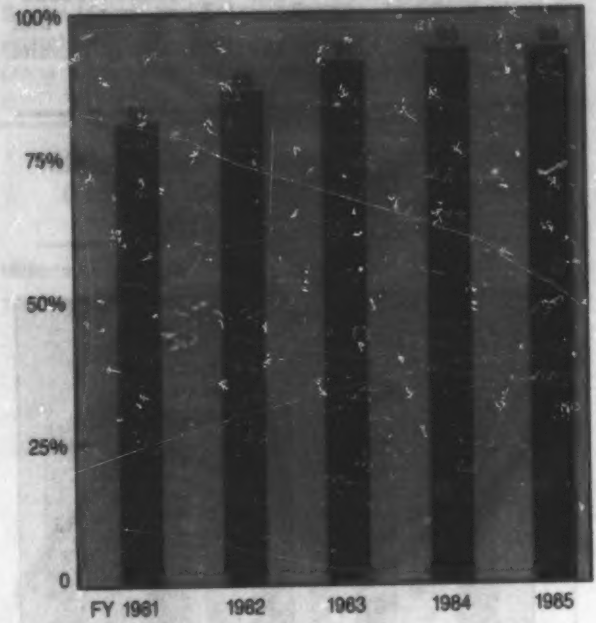
As of 1 January 1986 *FIGURE V-10*

best copy available

remains high, as shown in Figure V-11. Future recruiting goals, however, will become more difficult to attain unless the relative competitiveness of the enlistment package being offered is preserved.

High School Diploma Graduates*

(All Services)



* Non-prior service

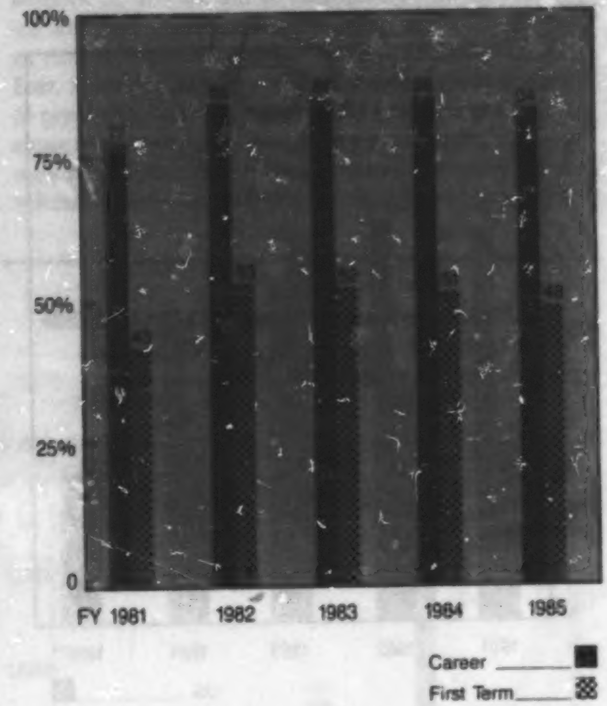
As of 1 January 1986 *FIGURE V-11*

Retention

The retention of sufficient numbers of high quality, skilled personnel in the right grades is essential to maintaining required military force levels in the active force. Since first-term and career retention have remained high in the 1980s (Figure V-12), the Services have been able to focus on quality by more extensively pursuing policies of reenlistment screening and selective retention. The Services continue to be dependent upon a competitive benefits program, including pay comparability, enhanced quality of life initiatives, and other personnel programs that affect the ability of the Services to meet force requirements in competing with the civilian sector to retain technically skilled people.

DOD Reenlistment Rates

(% of Eligibles)



As of 1 January 1986 *FIGURE V-12*

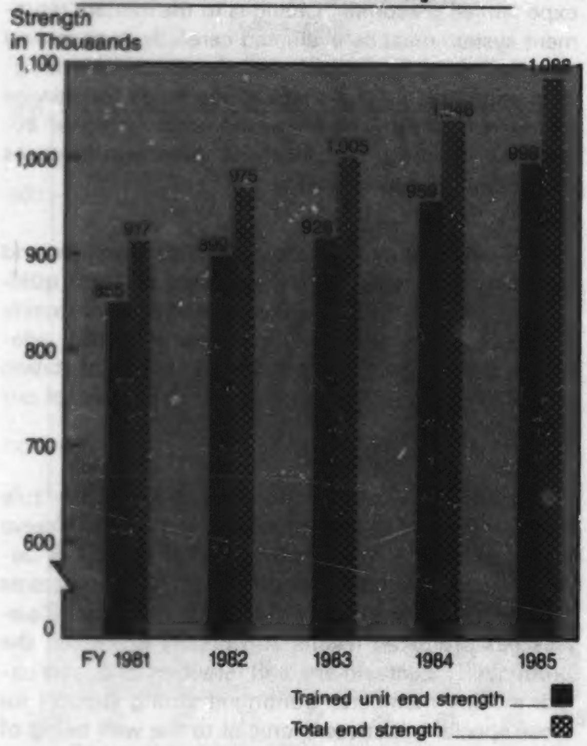
Reserve Manpower

The role of the Reserves in the Total Force has become increasingly important. Properly manned, trained, and equipped reserve units are required to rapidly augment active forces in times of war or national emergency.

The Selected Reserve (SELRES) has the major mobilization mission of the Ready Reserve. The SELRES consists of all of the National Guard forces, all reservists who are organized in Reserve units, and individuals preassigned to augment active units upon mobilization. Like the active forces, the SELRES has experienced significant manning improvements. The decline in SELRES strength that began in FY 1973 was reversed in FY 1979 and has continued to improve through FY 1985 (Figure V-13). Recruiting and retention successes are directly attributable to those manpower management programs and initiatives that have improved the pay, benefits, and quality of life for members of the Selected Reserve. Continued emphasis on programs supporting the personnel readiness of these forces will be required to maintain this positive trend.

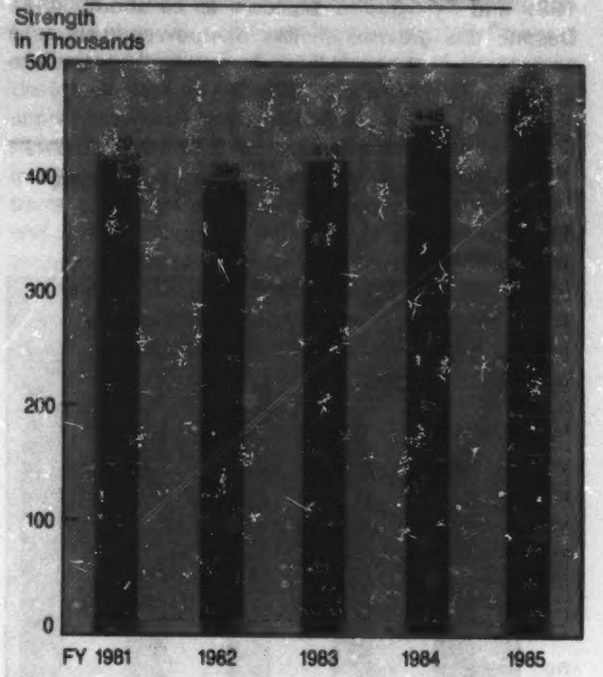
The Individual Ready Reserve (IRR) makes up the remainder of the Ready Reserve. It consists of trained individual reservists who will fill units to wartime manning levels and replace initial wartime casualties. Although no established manning level exists for this important manpower resource, wartime scenarios show that a larger IRR is required. The slow but continuing upward trend in IRR manning, as shown in Figure V-14, has been achieved primarily by increased active and SELRES manning levels along with recently authorized IRR bonus programs. Legislation that extended military service obligations from 6 to 8 years will help to further increase IRR manning in the early 1990s. Continued emphasis, however, will be required to maintain the positive growth, readiness, and responsiveness of the IRR.

Selected Reserve Manpower



As of 1 January 1986 *FIGURE V-13*

Individual Ready Reserve and Inactive National Guard



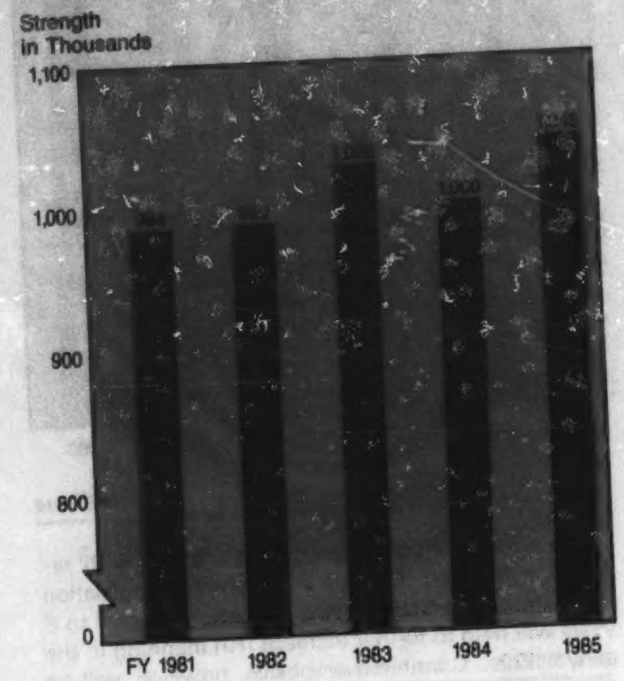
As of 1 January 1986 *FIGURE V-14*

Civilian Manpower

Civilians perform a major role in all defense activities and account for over half of the personnel in support functions within the Department of Defense. Only about 3 percent work in management headquarters, with the remainder in activities such as research and development, base operations, depots, shipyards, logistics and medical care facilities. Congressional action in FY 1985 suspended end strength ceilings in DOD. This has provided an opportunity to manage civilian manpower more effectively based upon funded workload requirements.

Civilian employee strength is expected to be 1,023,000 at the end of FY 1986, a decline from FY 1985 (Figure V-15). Civilian growth between FY 1987 and FY 1990 is expected to be about 5,000. Despite this growth, civilian manpower costs as a percentage of the total DOD budget will continue to decline.

Direct Hire Civilian Employment



As of 1 January 1986 *FIGURE V-15*

Contractor Personnel

An adverse trend with potential long-term consequences has developed as a result of fiscal and military personnel ceiling constraints. Various commands, particularly in the strategic defense mission area, are relying increasingly on contractor personnel to operate and maintain critical military systems such as TW/AA systems.

Quality of Life

Primary in the improvement of personnel readiness in recent years has been the enlistment and retention of quality people. We must ensure that these gains in force quality are protected through strong support for enhanced quality of life programs and a competitive compensation package.

Military pay must regain comparability and then keep pace with the general wage growth in the economy. This could be achieved through use of an automatic pay adjustment mechanism such as the Employment Cost Index. Such a mechanism would provide predictability and economic stability for Service members, thereby encouraging their long-term commitment to careers in the US Armed Forces. In addition, bonuses and special pay will continue to be essential retention incentives for highly skilled personnel and supervisors in the career force. If military pay again lags as it did in the 1970s, a downturn in the recruitment and retention of a quality force is possible.

The military retirement system provides a powerful retention incentive, functions as a force management tool, and supplies a mobilization base of experienced personnel. Changes to the military retirement system must be evaluated carefully, recognizing not only the purposes of the system and the long-term economic impact that change holds for Service members, but also the increased costs of higher accessions, training, and incentive pays and bonuses such changes may generate.

The overall quality of life of Service members and their families has significant influence on force quality and retention. Among the more important quality of life programs are health care, commissaries, adequate reimbursement for permanent change of station moves, and the living and working conditions of our people.

Families of military members play an important role in the quality of life for military personnel and serve as a vital source of strength contributing to US defense readiness. The development of special programs to raise the awareness of the needs of military families has produced results and greatly enhanced the productivity, sustainment, and retention of quality career military members. Continued strong support for these special initiatives is crucial to the well being of military members, 60 percent of whom have family responsibilities. This demonstrated concern will aid immeasurably in the commitment the military receives from its members.

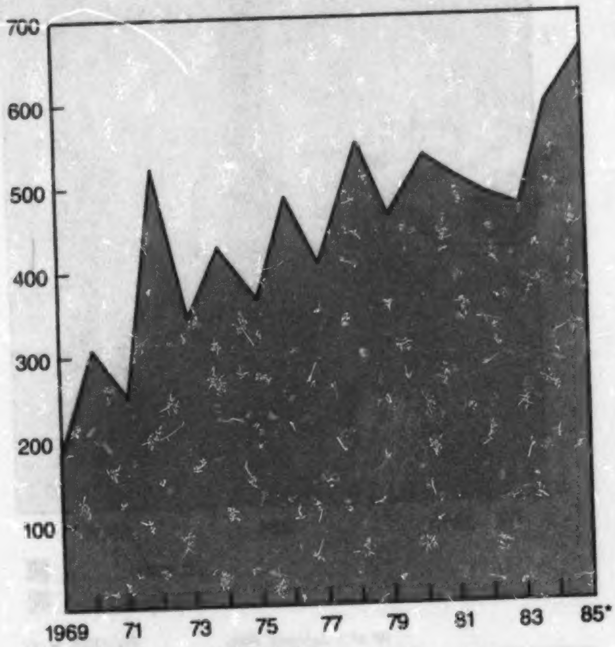
INTERNATIONAL TERRORISM

The threat of international terrorism against the United States and other nations has never been greater and continues to pose formidable challenges. Targeting of US interests in Europe and the Middle East has increased. These areas, along with Latin America, will probably remain the scene of the greatest number of terrorist activities against US interests.

During the past five years about 40 percent of all recorded international terrorist acts have been directed against US interests, with most against official US presence overseas. As shown in Figure V-16, the number of international terrorist incidents occuring in just the first 10 months of 1985 surpassed like annual statistics for all previous years. Note that while high, these figures do not include local acts of violence in which the perpetrators and the victims are indigenous to a single country.

International Terrorist Incidents

1969–1985



* Data as of 31 October 1985

As of 1 January 1986

FIGURE V-16

As with the number of terrorist incidents, the average lethality per incident has also increased. The 1983 and 1984 bombings of the US Embassy in Lebanon, 1983 bombing of the Marine headquarters in Lebanon, and bombings of the US Embassy and other facilities in Kuwait illustrate the increased destructiveness of terrorism resulting from relatively simple means and techniques. In addition to the renewed activity of terrorists indigenous to countries in Western Europe, the threat continues from Muslim transnational groups that originate in the Middle East and are influenced by Iran, Libya, and Syria. These groups, as well as fanatical Palestinians, such as those who participated in the October 1985 hijacking of the Italian liner Achille Lauro, pose a significant threat to US interests in the Middle East. Operations by these groups could broaden to include attacks in Europe as well.

Future terrorism will likely be more lethal and may be more frequent. More sophisticated weapons and tactics will likely be employed by terrorists. Power grids, waterways, pipelines, communications systems, mass transportation systems, and centralized computer facilities are particularly vulnerable.

International connections among terrorists continue to increase. In Europe, for example, there is increasing evidence pointing to linkages between terrorist groups in West Germany, France, and Belgium. Coordination among these groups is expected to continue with general targeting directed against US and NATO assets. In Latin America, linkages are also evolving, particularly between Colombian and Ecuadoran terrorists. Insurgents in El Salvador will continue to pose the greatest threat for US personnel and assets in Central America as demonstrated by the brutal assassination of four US Marines in June 1985. However, anti-US threats may also increase in Honduras, Colombia, Ecuador, Peru, and possibly in Chile as well. In Asia, the Philippines may also emerge as a major threat area for US interests.

As in the past, support from the Soviet Union, North Korea, Cuba, Nicaragua, and their allies and the provision of financial aid, weapons, and training from Syria, Iran, Libya, and the People's Democratic Republic of Yemen will likely continue and serves to subvert the security interests of the United States and its allies.

While international terrorism has focused primarily on targets overseas, the continental United States is not exempt from acts of terrorist violence. Some 218 incidents of terrorism occurred within the continental United States and Puerto Rico over the past five years, with over 10 percent directed against US military personnel or property. As self-professed anti-imperialists present the primary terrorist threat, they could pose a significant threat to US Armed Forces should mobilization and deployment become necessary.

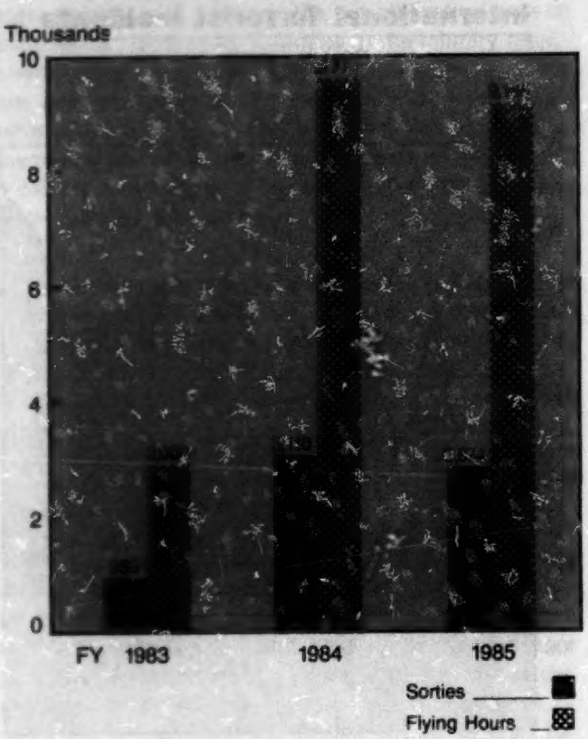
The United States continues to view terrorism as a threat to national security that must be dealt with. During the past year, intelligence collection has been increased against groups and individuals involved in international terrorism to provide timely warning to help deter terrorist acts and contribute to a heightened security posture in order to prevent the execution of such planned acts. This has helped to thwart many terrorist acts. The Services have undertaken efforts to confront the growing terrorist problem, including threat-awareness training and physical security programs. The US Armed Forces also have been working closely with non-DOD and host-nation security forces to ensure maximum protection of US personnel, dependents, and facilities. The CINCs also have taken steps to strengthen joint planning for defense against terrorist actions. The Joint Chiefs of Staff are represented on the Vice Presidential Task Force Working Group analyzing the national posture to deal with the terrorist problem. JCS representation ensures that joint military requirements and capabilities support national objectives addressing the threat of terrorism.

MILITARY SUPPORT TO DRUG INTERDICTION

Drug trafficking threatens US national security in three ways: social, economic, and politico-military. Drugs pose a threat to the United States through the degrading effect they have on the moral, social, and economic well-being of the country. The politico-military dimension of the threat consists of four elements: undermining friendly governments important to US security through corruption, intimidation, and economic destabilization; drug linkages to insurgencies which further threaten to destabilize these governments; the threat of drug-related terrorism to US officials and citizens abroad; and the degradation in military readiness and internal security of the US Armed Forces resulting from illicit drug use.

Since 1981, when the passage of Public Law 97-86 clarified the Posse Commitatus Act, US military forces have actively supported law enforcement agencies to the maximum extent possible consistent with resource availability, national security requirements, and the needs of military preparedness. This has included surveillance missions, communications and intelligence support, towing or escort of seized vessels, transport for logistics, equipment loans, and expert personnel assistance to regional centers and headquarters of the National Narcotics Border Interdiction System. In support of drug interdiction efforts, the numbers of sorties and flying hours flown by US military aircraft in FY 1985 remained close to the high FY 1984 levels and represent about a threefold increase over the numbers of sorties and hours flown in FY 1983. Surveillance mission data for FY 1983 through FY 1985 are displayed in Figure V-17.

Military Aircraft Surveillance Missions In Support of Drug Interdiction



As of 1 January 1986 *FIGURE V–17*

EUROPEAN TROOP STRENGTH

The congressionally-mandated European troop strength (ETS) manpower ceiling continues to affect adversely European force structure, readiness, modernization, and sustainability. The ceiling ignores the increasing capabilities of the Warsaw Pact, discounts improvements made by our allies, creates the impression that the United States is increasing nuclear forces at the expense of conventional forces, and creates a NATO penalty for CONUS defense improvements in the Atlantic islands. Conforming to the existing ETS ceiling restricts US and NATO combat capability as we reach the limits of prudent economizing, civilianizing, and reducing troop strength. As newer, more capable systems are introduced in Europe, the ceiling mandates that needed combat assets be returned to CONUS.

On the other hand, the Warsaw Pact is improving rapidly its conventional force capabilities and the gap between NATO and Pact force capabilities is growing wider despite the increased efforts of the NATO Allies. In the event of a Warsaw Pact attack against NATO, the ceiling's limit on conventional forces has increased the risk and could have the effect of lowering the nuclear threshhold. Continuation of the ceiling undermines the gains made in recent years in countering the threat to NATO. It is imperative that the size and composition of our deployed forces in Europe be based upon the requirement to meet the threat to US and allied interests, and not upon an arbitrary ceiling. There is no ceiling on Soviet forces.

[illegible]

MILITARY SUPPORT TO DRUG INTERDICTION

[illegible]

[illegible]

[illegible] Aircraft
[illegible] Missions in
[illegible] Drug Interdiction

BUDGETED TROOP STRENGTH

[illegible]

GLOSSARY

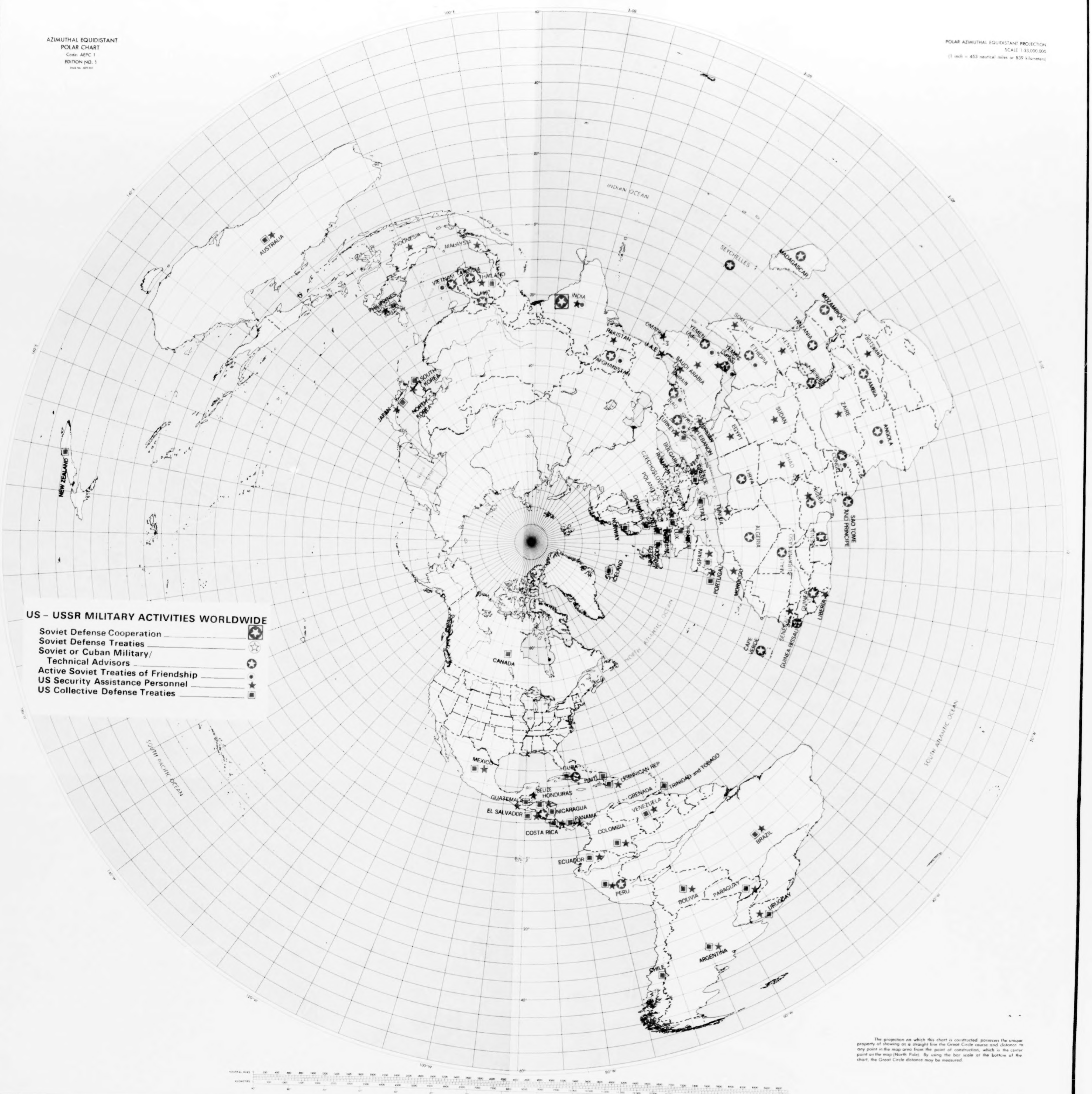
AAW	— antiair warfare
AAV SLEP	— assault amphibian vehicle service life extension program
ABM	— antiballistic missile
AC	— Active Component
ACM	— advanced cruise missile
ADCOM	— Aerospace Defense Command
ADDISS	— Advanced Deployable Imagery Support System
ADP	— automatic data processing
AEGIS	— US Navy AAW weapon system
AEW	— airborne early warning
AFAP	— artillery-fired atomic projectiles
ALCM	— air-launched cruise missiles
ALMV	— air-launched miniature vehicle
AMRAAM	— advanced medium-range air-to-air missile
ANMCC	— Alternate National Military Command Center
ANZUS	— Australia, New Zealand, United States
ASARS	— Advanced Synthetic Aperture Radar System
ASAS	— all source analysis system
ASAT	— antisatellite
ASEAN	— Association of Southeast Asian Nations
ASM	— air-to-surface missile
ASROC	— antisubmarine rocket
ASW	— antisubmarine warfare
ATB	— Advanced Technology Bomber
AUTODIN	— automatic digital network
AUTOVON	— automatic voice network
AVN	— aviation
AWACS	— Airborne Warning and Control System
BB	— battleship
BMD	— ballistic missile defense
BMEWS	— Ballistic Missile Early Warning System
BSTS	— Boost Surveillance and Tracking System
C^3	— command, control, and communications
C^3CM	— command, control, and communications countermeasures
C^3I	— command, control, communications, and intelligence
CD	— Conference on Disarmament
CDE	— Conference on Disarmament in Europe
CG	— guided missile cruiser
CGS	— CONUS Ground Station
CINCs	— commanders in chief of the unified and specified commands
CINCLANTFLT	— Commander in Chief Atlantic Fleet
CINCUSNAVEUR	— Commander in Chief US Naval Forces Europe
COBRA DANE	— space surveillance sensor
CONUS	— continental United States
CRAF	— Civil Reserve Air Fleet
CRAFTS	— Civil Reserve Auxiliary Fleet Ships
CSBM	— confidence- and security-building measures
CSCE	— Conference on Security and Cooperation in Europe
CTB	— comprehensive test ban
CVN	— nuclear-powered aircraft carrier
CVW	— carrier air wing

CW — chemical warfare
CY — calendar year
DA — direct action
DCA — dual-capable aircraft
DCS — Defense Communications System
DD — destroyer
DDC — Data Distribution Center
DDG — guided-missile destroyer
DDN — Defense Data Network
DEW — Distant Early Warning
DOD — Department of Defense
DSCS — Defense Satellite Communication Systems
DSN — Defense Switched Network
DSP — Defense Support Program
DWT — division wing team
ECM — electronic countermeasures
EHF — extremely high frequency
ELF — extremely low frequency
EPDS — electronic processing dissemination system
ESF — Economic Support Fund
ETS — European Troop Strength
EW — electronic warfare
FID — foreign internal defense
FLTSATCOM — Fleet Satellite Communications System
FMS — Foreign Military Sales
FMSCR — Foreign Military Sales Credit
FRG — Federal Republic of Germany
FY — fiscal year
GLCM — ground-launched cruise missile
GNP — gross national product
HNS — host-nation support
HQ — headquarters
HTKP — hard-target kill potential
HUMINT — human intelligence
IASA — Integrated AUTODIN System Architecture
ICBM — intercontinental ballistic missile
IFF — identification friend or foe
IMET — International Military Education and Training
INF — intermediate-range nuclear forces
IOC — initial operational capability
IRR — Individual Ready Reserve
I-S/A AMPE — interservice/agency automated message processing exchange
JCS — Joint Chiefs of Staff
JDS — Joint Deployment System
JFDP — Joint Force Development Process
JINTACCS — Joint Interoperability of Tactical Command and Control Systems
JOPES — Joint Operation Planning and Execution System
JRMB — Joint Requirements and Management Board
JSOA — Joint Special Operations Agency
JSTARS — Joint Surveillance and Target Attack Radar System
JTACMS — Joint Tactical Cruise Missiles
JTIDS — Joint Tactical Information Distribution System
JTTP — joint tactics, techniques, and procedures

km — kilometers
LANTIRN — low-altitude night targeting infra-red navigation
LAV — light armored vehicle
LCAC — landing craft, air-cushion
LCU — landing craft, utility
LOC(s) — line(s) of communication
LOTS — logistics over the shore
LRINF — longer range intermediate-range nuclear forces
LSVs — logistics support vessels
M-day — Mobilization-day
MAB — Marine Amphibious Brigade
MAC — Military Airlift Command
MAF — Marine Amphibious Force
MAGTF — Marine air-ground task force
MAP — Military Assistance Program
MAU/SOC — Marine amphibious unit special operations capability
MBFR — mutual and balanced force reductions
MCM — mine countermeasures
MILCON — military construction
MILSTAR — Military Strategic Tactical Relay
MIRV — multiple, independently targetable reentry vehicle
MLRS — Multiple-Launch Rocket System
mm — millimeter
MPF — multipurpose facility
MPS — Maritime Pre-positioning Ship
MRBM — medium range ballistic missile
MSE — mobile subscriber equipment
MTM/D — million-ton-miles per day
NATO — North Atlantic Treaty Organization
NAVSPECWAR — Navy special warfare
NBC — nuclear, biological, and chemical
NCA — National Command Authorities
NCMC — NORAD Cheyenne Mountain Complex
NDRF — National Defense Reserve Fleet
NEACP — National Emergency Airborne Command Post
NIS — NATO identification system
nm — nautical mile
NMCC — National Military Command Center
NMCS — National Military Command System
NNBIS — National Narcotics Border Interdiction System
NORAD — North American Aerospace Defense Command
NSNF — nonstrategic nuclear forces
NST — Nuclear and Space Talks
NTPF — near-term pre-positioning force
NWS — North Warning System
OJCS — Organization of the Joint Chiefs of Staff
OPDS — Offshore POL Discharge System
OTH-B — over-the-horizon backscatter
PACAF — Pacific Air Force
PARCS — Perimeter Acquisition Radar Attack Characterization System
PAVE PAWS — phased-array missile warning system
PGM — precision guided missile
PJH — PLRS-JTIDS hybreed
PKO — Peacekeeping Operations

PLRS	— Position Location Reporting System
PLSS	— Precision Location Strike System
POL	— petroleum, oils, and lubricants
POM	— Program Objective Memorandum
POMCUS	— pre-positioning of materiel configured to unit sets
PPBS	— Planning, Programming, and Budgeting System
PRC	— People's Republic of China
PREPO	— pre-positioning
psi	— pounds per square inch
PSYOP	— psychological operations
PWRM	— pre-positioned war reserve materiel
R&D	— research and development
RC	— Reserve Component(s)
RCS	— radar cross-section
RECCE	— reconnaissance
RECON	— reconnaissance
REFORGER	— Return of Forces to Germany
ROK	— Republic of Korea
RO/RO	— roll-on/roll-off
ROS	— reduced operating status
RPV	— remotely piloted vehicle
RRF	— Ready Reserve Force
RSI	— rationalization, standardization, and interoperability
RV	— reentry vehicle
SAC	— Strategic Air Command
SACEUR	— Supreme Allied Commander Europe
SAM	— surface-to-air missile
SATCOM	— satellite communication
SCP	— Secure Conferencing Project
SDAF	— Special Defense Acquisition Fund
SDI	— Strategic Defense Initiative
SEAL	— Sea, Air, and Land
SELRES	— Selected Reserve
SICBM	— small intercontinental ballistic missile
SIGINT	— signals intelligence
SINCGARS	— single channel ground-airborne radio system
SIOP	— Single Integrated Operational Plan
SLBM	— submarine-launched ballistic missile
SLCM	— sea-launched cruise missile
SLEP	— Service Life Extension Program
SLOC(s)	— sea line(s) of communication
SNA	— Soviet Naval Aviation
SNF	— short range nuclear forces
SO	— special operations
SOF	— special operations forces
SOSUS	— Sound Underwater Surveillance System
SPRAA	— Strategic Plans and Resource Analysis Agency
SPS	— simplified processing station
SRBM	— short range ballistic missile
SRINF	— shorter range intermediate-range nuclear forces
SRT(s)	— strategic relocatable targets
SSBN	— nuclear-powered ballistic missile submarine

SSGN	— guided-missile submarines
SSM	— surface-to-surface missile
SSN	— nuclear-powered attack submarine
SSTS	— Space Surveillance and Tracking System
START	— Strategic Arms Reduction Talks
SUBROC	— submarine launched rocket
SURTASS	— surface towed array sonar system
SVIP	— Secure Voice Improvement Program
TACIES	— tactical imagery exploitation system
TACMS	— tactical missile system
TACS	— tactical air control system
TAH	— hospital ship
TARPS	— tactical air reconnaissance pod system
TEL	— transporter-erector launcher
TAVB	— aviation logistics support ship
TFW	— tactical fighter wing
TLAM/N	— TOMAHAWK Land-Attack Cruise Missile (Nuclear)
TOW	— tube-launched, optically tracked, wire-guided missile
TW/AA	— tactical warning and attack assessment
USCENTCOM	— United States Central Command
USCINCCENT	— Commander in Chief, US Central Command
USCINCEUR	— US Commander in Chief, Europe
USCINCLANT	— Commander in Chief, US Atlantic Command
USCINCRED	— Commander in Chief, US Readiness Command
USCINCSPACE	— Commander in Chief, US Space Command
USSPACECOM	— US Space Command
USEUCOM	— US European Command
USLANTCOM	— US Atlantic Command
USPACOM	— US Pacific Command
UW	— unconventional warfare
VAR	— cargo variant
VLS	— Vertical Launch System
VSTOL	— vertical/short takeoff and landing
WHNS	— wartime host-nation support
WIS	— WWMCCS Information System
WRSA	— war reserve stock for allies
WWABNRES	— WWMCCS Airborne Resources
WWDSA	— Worldwide Digital System Architecture
WWMCCS	— Worldwide Military Command and Control System


AZIMUTHAL EQUIDISTANT
POLAR CHART
Code: AEPC 1
EDITION NO. 1
POLAR AZIMUTHAL EQUIDISTANT PROJECTION
SCALE 1:33,000,000
(1 inch = 453 nautical miles or 839 kilometers)
US – USSR MILITARY ACTIVITIES WORLDWIDE
Soviet Defense Cooperation
Soviet Defense Treaties ☆
Soviet or Cuban Military/ Technical Advisors
Active Soviet Treaties of Friendship ●
US Security Assistance Personnel ★
US Collective Defense Treaties ▣
INDIAN OCEAN
NORTH ATLANTIC OCEAN
SOUTH ATLANTIC OCEAN
SOUTH PACIFIC OCEAN
AUSTRALIA
NEW ZEALAND
INDONESIA
MALAYSIA
VIETNAM
THAILAND
PHILIPPINES
SOUTH KOREA
NORTH KOREA
JAPAN
INDIA
PAKISTAN
AFGHANISTAN
OMAN
U.A.E.
YEMEN
SAUDI ARABIA
SOMALIA
ETHIOPIA
KENYA
TANZANIA
MOZAMBIQUE
MADAGASCAR
SEYCHELLES
BOTSWANA
ZAMBIA
ZAIRE
ANGOLA
SUDAN
EGYPT
CHAD
LIBYA
TUNISIA
ALGERIA
MOROCCO
SAO TOME AND PRINCIPE
LIBERIA
GUINEA
GUINEA-BISSAU
SENEGAL
CAPE VERDE
TURKEY
LEBANON
SYRIA
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CANADA
MEXICO
CUBA
HAITI
DOMINICAN REP
TRINIDAD and TOBAGO
GRENADA
BELIZE
HONDURAS
GUATEMALA
EL SALVADOR
NICARAGUA
COSTA RICA
PANAMA
VENEZUELA
COLOMBIA
ECUADOR
PERU
BRAZIL
BOLIVIA
PARAGUAY
URUGUAY
ARGENTINA
CHILE
NAUTICAL MILES
KILOMETERS

The projection on which this chart is constructed possesses the unique property of showing as a straight line the Great Circle course and distance to any point in the map area from the point of construction, which is the center point on the map (North Pole). By using the bar scale at the bottom of the chart, the Great Circle distance may be measured.

AS OF 1 JANUARY 1986

FIGURE 1-1